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Arthur St. Antoine

Epic Drives

Seeing Utah's beautiful Big Five national parks from an all-new Toyota Tacoma TRD Off-Road truck.

54

Georg Kacher

Going Turbo

The new Porsche 911 Carrera S and Mercedes-AMG C63 S Coupe are both turbocharged, but that doesn't mean they feel at all alike.

7/1

Jason H. Harper

Pilot Episode

Can the three-row Honda Pilot handle the rough and dirty backlands of Pennsylvania's Pocono Mountains? 76

Preston Lerner

GT3 Firepower

Audi guns for another performance level in production-based racing with its spectacular new R8 LMS.

a ஐ CHARLIE MAGEE, TACOMA: WILLIAM WALKER

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IGNITION

10

Mike Floyd

Editor's letter

Toyota looks to simplify.

12

News

How students see Jaguar's future design; four automakers changing the luxury game; and the sexiest and strangest from Tokyo.



22

Robert Cumberford

By Design

Porsche's Mission E Concept is the most impressive EV to date.

24

Arthur St. Antoine

The Asphalt Jungle

The shape-shifter from Chevrolet.

26

Jamie Kitman

Noise, Vibration & Harshness A teenage car trauma.

28

Letters

New Camaro: Flashback to the '70s?





DRIVEN

30

2017 Acura NSX

The stealth, contrarian supercar.

36

2016 BMW 340i

Proving the 3 Series is still fun.

42

2016 McLaren 570S

Finally finding a sense of self.

48

2016 Ferrari 488 Spider

More of a great thing.

50

2016 Audi A3 Sportback

The plug-in for discerning drivers.

The new Acura NSX, top, and the McLaren 570S both take steps forward.

A V-6 engine in 1985 became an available upgrade from the Fiero's base Iron Duke four-cylinder.

UPSHIFT

84

Four Seasons

The 2014 Ford Fiesta ST begs to be thrashed. Updates on our Volkswagen Golf GTI, Ford Mustang, and BMW M235i.

90

Collectible Classic

The 1984-'88 Pontiac Fiero: Memorable for its ambitions.

92

Auctions

A 1965 Ferrari 500 Superfast brings in a cool \$3 million during car week in Monterey, California.

97

Interview

A chat with Lamborghini legend Valentino Balboni.



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EDITOR'S LETTER

OYOTA'S PATH TO BECOMING A PERENNIAL

contender for the title of "World's Largest Automaker" hasn't always been smooth. A steady proliferation of vehicle platforms, engines, and other elements has become a drag on research, development, and resources, making it difficult for

Toyota to improve each car as much as it would like.

The solution? Toyota New Generation Architecture, or TNGA, a way of manufacturing cars the automaker says will dramatically simplify its production process. And the company is kicking it all off with one of its most important models, the next-generation Prius. For the recent Tokyo auto show, Toyota trucked in a horde of journalists from across the globe in an effort to make sure everyone is acutely aware of how important the TNGA concept is to its future.

"With TNGA, Toyota has changed its batting form," boasted CEO Akio Toyoda during his Tokyo show remarks, with baseball star and best pal Ichiro Suzuki at his side. I wasn't quite sure whether a clearly uncomfortable Ichiro was just nervous or wincing at all the tortured baseball metaphors Toyoda-san dropped. But I'll stick with the theme: Toyota plans to step up to the plate and knock one out of the park with TNGA.

Common platform solutions aren't new to the industry. Fellow global automaking powerhouses Volkswagen and General Motors for some time have employed similar strategies, as have several low-volume manufacturers. VW's MQB (loosely defined in English as Modular Transversal Toolkit) forms the basis for a host of vehicles with transversemounted engines, including the latest-generation Golf and Passat. GM's Alpha architecture forms the basis of Cadillac's ATS and CTS as well as Chevrolet's new Camaro. The goal is simple: Reduce complexity, cost, and weight-and work on hitting the curveball.

Toyota's TNGA follows the same general playbook: Produce an entire group of cars using one common set of components, all while remaining flexible enough to develop a diverse range of vehicles from that platform. The cars will look and perform differently, but what lies beneath is largely the same.

"Now, from the very beginning of the development of a model we target, we think in terms of the whole family group when we apply the TNGA concept. This kind of perspective is a big change from the past Toyota way of thinking," said executive vice president Mitsuhisa Kato during a roundtable at the Tokyo show.

The benefits are potentially enormous. Less complexity and fewer parts will allow engineers to hone in on creating a better overall experience-one time only. It also means Toyota's development teams can focus more on designing unique experiences for each car, namely the things customers can touch and see. Toyota says a TNGA-style setup will underpin approximately half of its lineup by 2020; eventually all of its primary product lines, from subcompacts to body-on-



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WHAT LIES BENEATH

frame commercial trucks, will deploy their own version.

"In the past, we worked with individual optimizations of the models, so for Prius we would make an optimal development, and even though there are models that use the same platform, like the Corolla, there were some reworks that needed to be done, so we said that this is ineffective," Katosan said. "TNGA will solve multiple issues that we have simultaneously. Issues such as cost, enhancing product strength and appeal, and making the way we work more efficient. It's not about sacrificing something to achieve another thing, but for all of the aspects that we look into we want to have a good balance of achievement between all of the issues we are trying to solve."

Judging from my bento-box-style indoctrination and very brief drive at Fuji Speedway's short course, the benefits of TNGA look to be many for the fourth-generation Prius. (Stay tuned next month for our complete report on the new car in Driven.) Thanks to a newly developed frame structure, the Prius is about 60 percent stiffer than the outgoing version. Its frontal crash structure has been improved, as has the overall body structure. While additional hot-stamped parts are used throughout, Kato-san concedes a future need to employ more lightweight and advanced materials, including aluminum and carbon fiber.

Lowering the Prius' cowl height improved frontal visibility-part of dropping the car's center of gravity intended to improve handling. The Prius certainly seemed more buttoned down after a back-to-back drive with its predecessor, thanks in part to its new suspension pieces, including an allnew rear double-wishbone setup.

Toyota has gone so far as to say the Prius will even begasp-fun to drive, which also bodes well for future TNGAdeveloped models. At least that's according to this choice nugget from the media material: "TNGA improves driving performance through obedient response and fine quality feeling."

Hmmm. That might be true, but after reading that mangled description, the company should probably stick to baseball metaphors.



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ast summer, Jaguar

sponsored an

ambitious

project

Californian design schools:

Design in Pasadena and the

gave each a different design

Academy of Art University in

San Francisco. The automaker

brief. Art Center students were

to imagine a new Jaguar sports

car for 15 years in the future,

something approximately

the same size as an F-Type

or a Ferrari 488 GTB. The

appealing to enthusiasts:

"A proper driver's car."

brief used descriptive phrases

the Art Center College of

with two

JAGUAR DESIGN KIDS / FUTURE LUXURY / TOKYO SHOW / CUMBERFORD / ST. ANTOINE / KITMAN / LETTERS

project at Europe's Art Center College of Design. One of the students in that class is now head of all the sponsoring company's design activities, so clearly there is merit in seeking the best and the brightest as early as possible. Carmakers

students create muchshapes, glass forms, color schemes, new proportionsthat seasoned professionals "know" won't work. Except when, eventually, they do, as with flush glass or integrated bumpers. So an inexperienced

RICHARD YOH

The Art Center student with a scale model of his winning "future Jaguar sports car," configured as a hatchback to carry bikes and other sports paraphernalia.

top designers to both schools several times to see and hear what the students were thinking and developing and to gently suggest what Jaguar internally sees as future possibilities.

Ian Callum, Jaguar's director of design, made the trip to California once, while Julian Thomson, Advanced Design Studio director, Adam Hatton, Jaguar Exteriors creative director, and his Interiors counterpart, creative director Alister Whelan, were more frequent visitors to both campuses. The programs were scheduled for 12-week summer terms, so a lot of work was done under

SCOUTING TOMORROW'S DESIGNERS

JAGUAR REWARDS STUDENTS WHO STRETCH BOUNDARIES

"Indulgent, involving, and rewarding." "Nothing that drives itself or goes off road(!)."

For the Academy of Art, the country's largest private design school, the brief was slightly different, and students had two options. First was to "consider an interior" for "Jaguar's halo sports car"-the project that was the Art Center group's primary goal-and the second was to come up with an interior for a "2+2 seat, large luxury sports coupe."

Car companies have long made a practice of sponsoring projects at leading design schools. Their reasons are numerous, but basically they're talent-scouting expeditions. Twenty-four years ago I participated as the day-today instructor in a sponsored

don't really need the new ideas students come up with, especially when they have an in-house team as strong as Jaguar's, but they do need to constantly search for people who are strong idea generators.

Typically, car-design

creator's impractical ideas do have real value, which led Jaguar to put this phrase in the project brief: "We'd like to see Jaguar's next generation design language." To emphasize how important the project was, Jaguar sent its

considerable pressure—just like real-world professionals experience.

In a post-project conversation with Jaguar's four top designers, I asked why they undertook a timeconsuming and costly effort like this. They emphasized they wanted to understand the character of the schools and their students. In fact, Jaguar expects to continue sponsored projects with other American schools, as well as with some in Italy, the U.K., and China. Callum said, "We were unsure of what we'd see," and that uncertainty was an attraction. To encourage students, three scholarships were offered for the best efforts from the schools.

Two scholarships went



■ **Ignition** / New Designers

to Art Center students Hyun Jun (Richard) Yoh from Korea and Eirik Stensrud from Norway. Yoh's was judged best of five exterior body design proposals; Stensrud's was best of nine interior design concepts. Both prepared graphical information including layouts, renderings-both hand-drawn and digitally composed-and effective three-dimensional models. Yoh's painted clay model showed a wide, chunky, but sleek form. The car was a two-door hatchback with ample room, as he stated, for a bicycle, a set of track tires or, of course, luggage. His drawings were clear and informative.

Stensrud's interior concept impressed us with its functional innovations and its strong respect for Jaguar's interiors traditions. He used a lot of highly visible stitching in leather that covered consoles, panels, and doors, and everything was clean and even a bit Old English, yet as modern as touchless proximity sensors. The visual effect was terrific, and the notion of having two concentric steering wheels, one much smaller than the other for track driving, seemed both practical and possible.

The third scholarship went to the Academy of Art's Jack Liu, who deviated considerably from the original brief, devising a single-seat cockpit with a recumbent driver operating the vehicle completely without a steering wheel or pedals, using levers alongside his legs to control direction and velocity. His single-seat cockpit was covered by a transparent canopy that would allow the driver to relive laps turned on a track or a spirited run on a winding road, all of which would have been recorded by cameras incorporated above the "smart glass" canopy. His win proves Jaguar was more interested in ideas than in directly applicable solutions to the brief's stated goals.

Altogether, everyone involved in the project gained from it. Jaguar is highly positive, and all the students, win or lose, benefited from dealing with high-level professionals in a solid approximation of what their future lives as designers will be.







Ignition / The Deep Dive



OLLS-ROYCE

will soon debut an all-new, all-aluminum modular architecture developed from scratch that will underpin each of its future models. The lightweight, adaptable componentry will debut on the second-generation Phantom, which we should see next year. The Phantom will again have standard- and extended-wheelbase versions, and the overall body design is said to be more modern and more imposing. Expect a taller radiator grille, a more sculptured front end with rectangular headlamps, more striking signature C-pillars, and slightly less formal flanks with a longer and more naturally flowing lower character line. The price of the sedan will stay about the same, and the BMW-sourced V-12 will still be the only available engine.

Rolls is also considering the establishment of a specialty operation to make one-off models—the Coachbuilt

Division. The first étude?
Likely a landaulet edition or
Sedanca de Ville version of the
next Phantom, but we could
also see a stunning two-plustwo proportioned like
a famous art deco car,
a superlong-wheelbase
two-seat convertible with
an electrically assisted V-12, or
a shorter, smaller all-electric
high-performance drop-top.
To make the Coachbuilt

concept work, Rolls-Royce would have to expand its Goodwood facility, but there is allegedly no need for an additional building complex. The relatively inexpensive retooling means it would only take a few hundred units to make the Coachbuilt concept profitable, seeing how none of the models mentioned would cost less than \$1.1 million and some will cost much more.

New Old Money

How Bentley, Jaguar, Maserati, and Rolls-Royce will up the luxury game in very different ways

ROLLS-ROYCE

Georg Kacher





JAGUAR'S FIRST

all-electric vehicle will probably be a crossover and will probably be badged E-Pace. Expect a low, flowing silhouette with a steeply raked windscreen and a tapered rear end. Imagine a sleeker, slightly smaller version of Audi's Q6 e-tron concept from the 2015 Frankfurt Auto Show, and you're close. Both active and

passive aerodynamic aids should help the E-Pace get to a targeted drag coefficient of 0.28, which would make it one of the world's most aerodynamic crossovers, if not the most aerodynamic. To be assembled by Magna Steyr in Graz, Austria, the zeroemission Jaquar would need to find at least 20,000 takers a year to turn a profit.







BENTLEY WILL DEBUT

a revised Mulsanne at the 2016 Geneva auto show. The slowselling ultra-luxury sedan will get a wider, more upright grille, a squarer front end, restyled headlamps, and three brickshaped air intakes in the bumper. Bentley **CEO** Wolfgang Dürheimer recently told us, "Mulsanne will get further derivatives." We believe the first will be a Mulsanne Grand Convertible, which would arrive by early 2017. Dürheimer confirmed during the interview that he was aware Bentley dealers are already taking orders for the Grand Convertible: "We have some important customers who are waiting for this car. It will be very exciting for us to have this car on the market. I think it fits very well, and we are keen to do it."







MASERATI HOPES TO

have its Ghibli-based Levante SUV at dealers by next March. The all-wheeldrive five-seater will bear no resemblance to the more mundane Alfas and Jeeps from which it borrows its technology. It will be equipped exclusively with 3.0-liter V-6 engines—a pair of 350-hp and 425-hp units, plus a 275-hp diesel. CEO Harald Wester has told us that the Maserati Alfieri would debut in

2016 as a coupe and one year later as a roadster, but the coupe has since been pushed back to 2018, the drop-top to 2019. Meanwhile, the GranTurismo and GranCabrio are to receive a new infotainment system and several detail mods before roomier replacement models finally arrive in late 2019 or early 2020. And what about a MC12-style supercar? Nope. No budget, no engineering capacity.

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■ Ignition / Tokyo Show

Mazda RX-Vision concept (SEXY)

Yes, this "rotary experiment" RX sports car concept has a Wankel engine. Supposedly. We didn't actually see the engine, and the long hood is curious given the relative compact packaging of the rotary engine. Even if Mazda builds something like this, it's still a while off. "There are still many issues to overcome," says CEO Masamichi Kogai.



THE SEXIEST AND STRANGEST FROM

Toky

We recently got back from the Tokyo auto show,

where almost every debut is a futuristic concept car and half of them have "Vision" in their names. What we saw as we walked the show floor—well, some cars made us sweat, and some left us scratching our heads.



Toyota Kikai (STRANGE)

A simple car with a complicated design, this bare-bones chop-rod has exposed suspension and a mid-mounted engine with artfully arranged exhaust pipes hanging out the back. The driver sits in the center of the car with two rear seats off to the sides, and there's a window in the floor so you can enjoy the reverse-mounted whitewall tires as you drive.



We wonder why you don't stand in the Wander Stand. Rolling around in a gloss-white phone booth on wheels is really dumb, but it's not as dumb as its maker saying the purpose of said machine is to "pursue the joy and freedom of mobility."

Toyota Kirobo Mini boy robot

(STRANGE)

This 4-inch-tall guy is supposed to sit in your cupholder and talk to you during your commute. He has a built-in camera that helps him detect your mood, and Toyota says Kirobo Mini could "help driving become a physically and emotionally transformative experience."

Lexus LF-FC concept

(SEXY)

The LF-FC is a sultry peek at the next LS sedan. Lexus' controversial spindle grille makes sense here, both in its size and texture, and the LF-FC's sheetmetal is a handsome combination of a sculpture and extrusion that flows rearward naturally.



By Automobile Staff



Toyota S-FR concept (SEXY)

The neon-yellow S-FR (small, front-engine, rear-drive) is as small as a Miata, and its 1.5-liter inline-four sends about 130 horsepower to the rear wheels through a standard six-speed manual transmission. The 2,160-pound two-plus-two is slated for production, but we don't yet know if it's coming to America.

Nissan Vision Gran Turismo concept (SEXY)

We've seen this same basic car before, but now it's red, it has Nissan's new V-Motion bunny-tooth grille, and it seems to be getting closer and closer to what we'll see wrapped around the next-gen GT-R. Nissan's official comment: "This is a look at what a high-performance supercar from Nissan may look like in the future."





Suzuki Mighty Deck concept

(STRANGE)

If an Isuzu VehiCross mounted one of the promotional Mini pickups that Red Bull girls ride around in, nine months later the Suzuki Mighty Deck would pop out. The tiny, four-passenger ute has a canvas roof, blond wood accents, and a height-adjustable cargo bed that sits behind a tailqate.



Nissan Teatro for Dayz (STRANGE)

A giant battery that happens to drive, the Teatro for Dayz (gag us, please) allows a young, "share native" generation of owners to charge an assortment of mobile devices. Users can control the interior atmosphere through their smartphones (even the color of the seats can be changed), and you can play video games on the dashboard displays.



This shoulder-high, one-door, single-box silver bullet has a surprising amount of moxie for a minivan. There's a horseshoe-shaped lounge couch in the passenger compartment, a hologram display in the middle of the cabin to control different functions, and just about everything glows.



Okuyama Kode9 (SEXY)

Ken Okuyama, who designed the original NSX and the Ferrari Enzo, is doing a very limited run of his Kode9. Both the 1,782-pound coupe and 1,716-pound open-air Spyder have turbocharged inline-four engines producing more than 300 hp. Only five coupes and five Spyders will be made, and all the coupes have been spoken for.

Yamaha Sports Ride concept (SEXY)

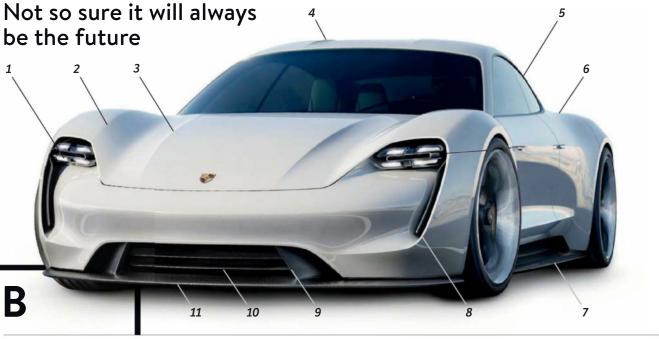
Roughly the size of an Alfa Romeo 4C, the Yamaha Sports Ride is similarly built around a carbon-fiber tub. This one is designed by Gordon Murray, a well-known former Formula 1 designer. The Sports Ride's curb weight? Only 1,653 pounds. No word yet on a powertrain, but more than a few of the countless engines Yamaha already stocks on its shelves could work.



BY DESIGN

PORSCHE MISSION E CONCEPT





razil, it is said, is "the country of the future." But given its messed-up economy and corrupt politics, cynics say "it always will be." As someone who got disastrously involved with its supposed brilliant future 55 years ago, I'm inclined to think the cynics may be right even though the country now makes some of the world's best airplanes, which it couldn't do in 1961. During my six decades in the automobile business, people have constantly said something similar about electric cars: "They're the future and always will be."

I'm not so sure about that, though. Electric cars are no longer fantasy and far from gutless wonders. The Tesla Model S is the best sedan I've ever driven, and it has gotten much better since my stint with Tesla chief designer Franz von Holzhausen three

years ago, thanks to the addition of all-wheel drive, Ludicrous mode acceleration, and various self-driving accoutrements. Others have been as impressed with the Tesla as I have, and it shows in the worldwide effort to make Tesla-like cars. None to date has been as impressive as Porsche's latest concept car, the Mission E. Any way you look at it, it's a clear, specific challenge to Tesla. It's not a commuter-car tiddler such as Mitsubishi's i-MiEV, BMW's i3, or a standard steel box made heavier by hundreds of pounds of batteries like the Ford/VW/ Japan Inc. models. One of the best designers now practicing shaped the Mission E, and an extraordinarily capable team of top-level technicians engineered it.

We all know company patriarch Ferdinand Porsche

built a workable gasolineelectric hybrid in the 19th century and that Porsche just won the 24 Hours of Le Mans with a distant descendant of that car, but hybrids are at best a temporary step on the way to a pure-electric future. The sticking point is better batteries-or perhaps the use of hydrogen to produce juice onboard, as a number of manufacturers have explored. Our Georg Kacher says all Porsches are likely to be hybridized in the next few years, but I think the Mission E represents a statement of intent the automotive world should take very seriously

What impresses me the most about what Michael Mauer's team did: Its creation of an all-new form that perfectly expresses the essence of Erwin Komenda's 80-year-old design philosophy as filtered through the hands of Ferdinand's grandson, "Butzi" Porsche, as well as Anatole Lapine, Harm Lagaay, and Mauer. All contributed to the evolution of the evergreen 911, but none more so than Mauer, who has now given us a credible four-door sedan that is unmistakably Porsche yet totally free of the VWheadlamps look that defined the 356 series and carried over into 911s. This solution, with four LED units floating in scoops that encompass the entire front of the fenders, brilliantly manages to evoke the past while being resolutely different from it. When and if this car hits the market with the Tesla, the electric car may, finally, really be here.

With this magnificent sports sedan, we're a long way from the Henney Kilowatt, folks.

FRONT 3/4 VIEW

- 1. Completely different from any past Porsche headlamps, these LED clusters floating in a scoop still convey a sense of identity, perhaps from the opening leaning forward, as most Porsches have done.
- 2. Crisp longitudinal surface break lines are a new element in the Porsche surface vocabulary.
- **3.** Ribs raising the central part of the hood panel add both visual interest and panel stiffness.
- **4.** Their lines pick up again on the roof, with the central part depressed rather than raised.
- **5.** The side glass profile, rendered in three panes to accommodate two doors per side, still manages to evoke the Komenda 911 profile and Porsche marque identity as well as BMW's Hofmeister kink does.
- **6.** Tapering inward in plan, the top allows a broad rear shoulder and a strong sense of sportiness.
- 7. The body side surfaces between the front and rear wheelhouses are complex, including inlets, outlets, a hard horizontal line just below the wheel centers, and a nice lower fairing for the rear wheels
- **8.** After generations of soft leadingedge forms, it is a surprise to see blade-edge scoops leading the way on the fenders, but the soft form of the horizontal bumper strike face flows

into the scoops and completes the form you expect to see on a Porsche.

- **9.** Sharp diagonal splitters direct air into the brakes, and their upper edges align visually with the hood ribs.
- **10.** Don't forget: Electrical elements generate a lot of heat. This simple two-bar grille in the lower opening is therefore highly functional.
- 11. This Formula 1 "base plate" carries around to the body sides. Presumably the entire underbody is flat, and all elements are enclosed and protected against road debris.

REAR 3/4 VIEW

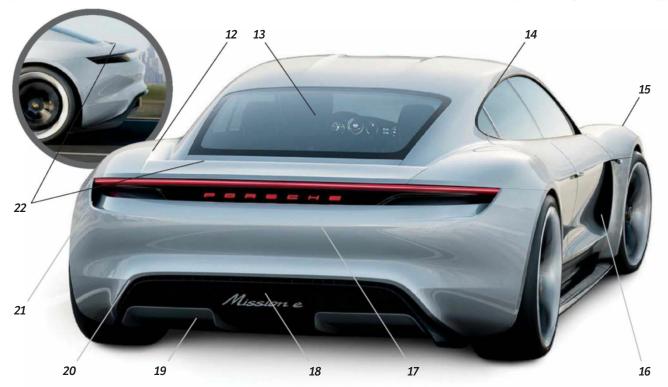
- 12. This rear wing apparently allows air to flow beneath it at all times, but it may also articulate. There are cutlines at the end of the straight portion extending beyond the base of the backlight ...
- **13.** ... which itself is highly reminiscent of the 911. Of course.
- **14.** The same is true for the side glass DLO profile, very 356/911, but elongated.
- **15.** Notice how the tops of the front fenders flatten slightly between longitudinal surface break lines.
- **16.** The big air outlet at the front of the door cut controls body side surfaces, indented deeply in front, fading to zero by the rear wheel opening.
- **17.** A nice transverse hard line separates the concave surface above and rounded convex surface below.



- **18.** The license plate area in the negative space below the lip around the rear cutout is a solution that should work for all countries.
- **19.** We can assume the diffuser under the tail really works. It's a Porsche, after all.
- **20.** This protruding lip and the concave area under the wing keep the rear from looking like a 928, which was unfortunately rather bloblike.
- **21.** The ends of the concavity repeat the effect of the front fenders, but inversed.
- **22.** You can just see the leading edge of the wing and the surface below, which wraps well around the body sides.

INTERIOR VIEW

- 23. This may be a sedan, but it really has the look and feel of a sports car. The lighter color band below the IP and continuing on the tunnel top is very pleasant.
- **24.** The steering wheel is definitely sports car-like, but there are no shift paddles.
- **25.** The boomerang-shaped instrument panel is organized so the wheel blocks nothing. Good.
- **26.** This little electrical toggle is a long way from a sturdy shift lever attached to mechanical linkages. Of course, there's nothing to shift in a pure EV.



THE ASPHALT JUNGLE

THE SHAPE-SHIFTER CHEVY





'VE BEEN IN THE BUSINESS OF

testing and reviewing automobiles for so long (man, that very first self-starter changed *everything*), usually I know pretty much what to expect when I show up to evaluate the "all-new" version of an existing model. It'll look the

same, but different. It'll have a little more power, a tad more room, sip a bit less gas. The cabin will sport a few new electronic gizmos and maybe an additional airbag or two. But the fundamental personality will be the same. The 2016 Mazda



MX-5 Miata is a lithe, low-powered roadster that excels at nipping through twisty two-lanes—just like the original from a quarter century ago. The seventh-gen Volkswagen GTI is a feisty hot hatch whose core DNA—versatile packaging mixed with refined sportiness—hasn't changed since the first one stormed Europe in 1976. And so it goes. If you've spent any time behind the wheel of an existing car, when it's time to pilot the new one, you know what you're going to get.

Then I drove the 2016 Chevy Camaro. And I didn't recognize it at all.

Before I proceed, allow me to admit that I've never been a Camaro guy. Yes, over the years Chevy has built some appealing versions—among them, the first-gen car introduced for the 1967 model year (always loved the look) and last year's track-optimized Z/28 (heroic performance from the LS7 V-8). But every time I've driven a Camaro, it's felt unnecessarily heavy and big-boned. The cockpits have tended to have more in common with dungeons than greenhouses; they're gloomy and low (and you get yelled at if you don't put on your restraints). The straight-line speed has usually been there, but turning the wheel typically hasn't produced much in the way of handling euphoria. Refinement? Not so much. Instead, the Camaro has always been like your loud, lumbering Uncle Jim: great to watch the football game with, but at Thanksgiving dinner you're always afraid he might start spouting dirty limericks.

Thus my shock the first time I test-fired a 2016 Camaro SS across a stretch of wriggling asphalt. Huh? Instead of darkness and bulk, I found light and visibility and a neatly trimmed hood out front. The six-speed manual shifter rowed as expertly as a member of the Harvard crew churning up the Charles, while astutely placed pedals allowed effortless heel-and-toe maneuvers. The V-8 was spooling out power with the smoothness of a con artist. The chassis was alive in my hands, cutting and swerving like a cheetah on the attack.

Clearly, I had accidentally driven off in somebody's BMW 5 Series

It's hard to overstate just what a leap this 2016 Chevrolet represents. The new edition isn't simply the latest upgrade in a long line of Camaros. It's a shape-shifter. It feels different at its very core, as if its genes had mutated to produce an entirely new specimen, one barely recognizable as belonging to the family lineage.

Of course, the new Alpha platform, shared with the Cadillac ATS and CTS, accounts for much of the metamorphosis. The previous Zeta architecture, developed largely by Holden of Australia, was simply too big and weighty to play on the A-list. So as early as 2006-2007 the General gamely set out to create more compact, better-balanced, and far lighter underpinnings. The result, largely engineered in North America (with some input from GM Europe), would feature struts up front, an independent five-link setup at the rear, and lots of high-strength steel and aluminum. There were teething problems (General Motors initially struggled with creeping bulk on its new ATS), but since then the Camaro team has managed to create a body-in-white 136 pounds lighter than the original Alpha. Chassis stiffness has increased 28 percent over the outgoing Camaro

coupe. The new platform has a liveliness and leanness Zeta never did. With the optimized Alpha as its foundation, at long last the Camaro is actually spry.

Team Camaro looked far beyond the platform, though, in the quest to eliminate unnecessary poundage. Engineers shaved millimeters of extra threads off bolts. The SS's wheels are a half-inch wider but 6 ounces lighter than the gen five's. An aluminum instrument panel frame saves 9.2 pounds over the previous steel version. Aluminum front links and rear steel

THE CHASSIS WAS ALIVE IN MY HANDS, CUTTING AND SWERVING LIKE A CHEETAH ON THE ATTACK.

links drilled for lightness cut 26 pounds off suspension weight. All told, the new SS weighs 223 pounds less than its 2015 counterpart. It's all the result of some 9 million hours of computer modeling spent perfecting the weight/strength balance of various structures. Indeed, the new Camaro is about as "clean sheet" as an upgrade of an existing model gets. Roughly 70 percent of the structural parts are unique to the car. And on the SS, only two pieces carry over from 2015: the Chevy bow tie and SS badges.

LLUSTRATION BY TIM MARRS

The new Camaro is a tad smaller than its predecessor. It's 2.3 inches shorter in length, 1.1 inches shorter in height, and just under an inch narrower. There's a payoff here, too. Lower body weight equals less mass needed in the suspension equals less unsprung mass equals better steering and handling feel. It's an improvement I could feel immediately. Perhaps even more noteworthy, though, was what I could see. Camaro devotees have long admonished Chevy not to mess with the car's stubby side windows and rakish roofline. Others of us, though, have long derided the resulting "gun slit" view from the driver's seat. The 2016 edition solves the problem-likely to the satisfaction of previous critics and fans alike. Cowl height (where the windshield meets the hood) has dropped significantly, so much so that the cockpit now feels genuinely airy with excellent visibility to the front guarters. A roof-mounted, frameless rearview mirror also improves forward sightlines. Yet the side windows are still only about 10 inches high, and the 2016 edition remains-even at a quick glance-unmistakably a Camaro.

With Chevy having sweated the details so successfully, the Camaro SS' bravura components-the 455-hp LT1 V-8, the optional magnetic-ride shocks, the Brembo brakes, the available dual-mode exhaust-simply sing. This is a thrilling, quick, deliciously responsive sports coupe, a road athlete in peak form.

No car in my recent memory has improved as much in a single generation as has this 2016 Chevrolet. It's a testament to the engineering team and their game-changing machine that, after my first test drive, I actually got out and triple-checked that it wore Camaro badges. I'm not even kidding.

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FEW IMPROMPTU OFF-ROAD

excursions and a hardcore metal-bending experiment or two notwithstanding, I'm pretty sure the scariest thing that ever happened to me in a car occurred in one that wasn't moving. And it explains why—while some examine tires and oil

levels before setting off—I always make sure first thing I know how to get out.

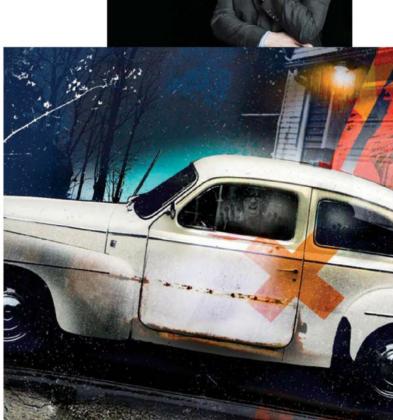
The year was 1975, and it was a chilly Friday afternoon in winter. As was our wont, a few long-haired compadres and I ambled (or "trucked" in the argot of the day) to kick off another mindless party weekend by hanging out at our friend's house, a convenient block away from the New Jersey high school from which we would soon graduate. Let's call our friend Jack (not his real name).

We were like most high schoolers of the day, accent on the word "high." So of course we went to Jack's house. We admired our host, a worldly and witty fellow who'd grown up in New York City and arrived one day in our sleepy hamlet with a surprisingly diverse potpourri of technical and theatrical skills and an elaborate water pipe.

We liked the proximity of our friend's house to school, and we especially liked the fact that our friend's mother, who drove a nifty, designer gold Datsun 510 wagon, had a job so was never home to monitor, restrict, or condemn our activities. In between our own misadventures, we'd often discuss the antic behavior of one of our classmates. A bright but troubled kid, he'd exhibited behavioral problems as long as anyone could remember. A teacher had told us he'd been diagnosed with what we now call ADHD and prescribed the hyperactivity drug Ritalin to help control his behavior, which tended toward the, well, hyper. Hyper-manic, hyper-reckless, and hyper-annoying. He wouldn't take no for an answer and invaded people's physical space in a most uncomfortable way. We avoided him at all costs.

Somewhere on the road to puberty these speedy-type, psychostimulant drugs apparently stop having whatever calming and focusing effect they're meant to offer and can instead lead to the reverse outcome. Our classmate—nuttier and more out of control than ever—was proof. He'd recently taken to showing up at people's houses late at night, unannounced, and creating ruckuses; only a few weeks earlier, he'd been foolishly let into my parents' house by my sister's friend as they baked cookies. At midnight, he flipped over the dining room table for no apparent reason and woke my parents. I vividly remember my father grabbing me by the collar as I attempted to join a single-file line of sheepish stoners hurriedly exiting my upstairs bedroom. "But you said, 'Get the hell outta here, all of yas!'" I reminded him.

Back to that fateful Friday: As the sun began to set that afternoon, I decided to leave my colleagues deep in amplified sound and mirth to check out the decrepit, oxidized Volvo 544 our host had recently dragged to his driveway. Ancient even then, it ran, which made it the equivalent of an Amelia Island trophy winner in our impoverished automotive world. It was all there, near as I



could tell, so I was pretty sure my friend had done all right. Only after settling into the driver's seat and slamming the door shut did I notice the powerful aroma of leaded gasoline. An immediate exit was in order. And only then I realized the doors were disassembled—no handles to open them from the inside, no window winders to allow opening from the outside. I was locked in.

Which was pretty scary. Especially when I heard the music blaring out of the bedroom window 20 feet above me. It was getting cold, I wasn't wearing my coat, and my friends couldn't hear me calling for help. But it got worse, way worse, when I happened to glance in the rearview mirror. In it I saw the pimple-faced visage of the uninvited, unexpected, improperly medicated classmate. There he was, sitting in the back seat. Only moments earlier, he'd gotten himself stuck in the Volvo, too. But he wasn't just sitting in the back seat; my surprise companion was deep in autoerotic communion. And I was locked in.

Finally, the music streaming out of the bedroom window stopped. I started to cry for help again, but then the loud strains of Edgar Winter's "Frankenstein" rose to drown me out. There was nothing to do but to stare blankly ahead, mumbling. After what seemed like hours but was probably only 10 minutes, my friends descended to Earth long enough to realize I was gone and came searching, releasing me from this cruel captivity. But the damage was done.

Which is why I say, my kingdom for a door handle.

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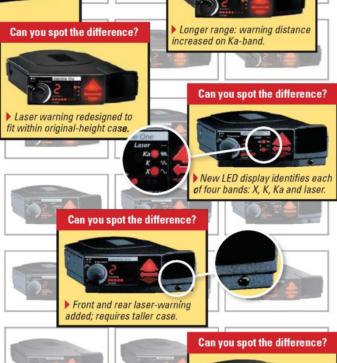
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WE'RE STYLING IN THE 2016 CAMARO

LET'S MOVE ON TO THE 1970s



66 L

OVELY" MIGHT VERY WELL SUMMARIZE THE

driving experience of the new 2016 Camaro ("Driven," December 2015), but the same adjective

certainly doesn't apply to the styling. The rear end and spoiler are atrocious, and the Camry-esque lower grille does nothing for me either. And does the cutline of the hood remind anyone else of a toilet seat? The new Camaro might be a huge improvement over the previous generation, but it puzzles me as to why GM would bother to regurgitate the styling of the 1969 Camaro yet again when it could have knocked the ball out of the park with a more inspired design. Modern version of the split-bumper '70-'73 Camaro anyone?

DAVE VOTH Via Internet

MADE IN DETROIT

Detroit has its mojo back. First the Camaro Z/28 uses the spool-valve dampers that are perhaps the best in the world, and then Ford has a Ferrari-style flat-plane crankshaft in the 2016 Shelby GT350 ("Driven," December 2015), which costs a fraction of what a Ferrari does. Who would have thought back in the bad old days that we'd see this resurgence? The Italian Renaissance was great, but I'll take this Detroit Renaissance any day.

ERIC KING
Via Internet

The 2016 Camaro seems to be a bargain with performance like a Corvette but for \$25,000 less ("Driven." December 2015). With that big Toyota-esque grille, it looks like the car won't have an overheating problem after one hero lap on the track like the Corvette Z06, either. What is not to love? Well, if you can't see, you can't drive. Makes you wonder if anyone at GM actually drives the cars they

CHRIS GEUTING

Durham, California

ALL THINGS BMW

Impressive key fob that BMW has there in the 2016 BMW 7 Series ("Driven," December 2015). Might be a bit of a challenge to put it in the pocket of your pants, though. Is that a BMW 7 Series key fob in your pocket, or are you just happy to see me?

SEAN CAIN Loraine, Texas

The thing I liked most ("Celebrating 40 Years of BMW North America," November 2015) is the affirmation, "We are all BMW drivers." I really am, and thanks for that to RepoKar auto auction, where I bought my beloved BMW, my favorite car ever!

EDMUND ROY Via Internet

CUBIC INCHES VS. LITERS

I've noticed that you've recently been using liters to describe the displacement of engines in vehicles that were originally specified with a size in cubic inches ("Auctions," December 2015). I don't think there is a requirement by law to convert cubic inches to liters when writing about American cars built before 1980. As an old guy, let me suggest that you describe the cars as they were originally built.

BARNEY EATON Georgetown, Texas

Old guys rule, and we will make the change.–Ed.

RACING VS. EMPTY WALLET

As a Spec Miata racer myself, I can't wait to test the Mazda MX-5 Miata ND factory racer ("Four Times a Racer," December 2015). But at \$53,000? At that price you could buy a really good Miata NB for yourself, an NA for your buddy, a tow vehicle, and a season's worth of Hoosier racing tires for both of you. We might be a second or two slower per lap, but we'll have a lot more buddies to play with.

JIM KETTELKAMP Bettendorf, Iowa

CORVETTE VS. KATE UPTON

I love the Corvette C7 ("Four Seasons Wrap," November 2015). It's got great performance at a great price, and it's sexier than ever. But as a teen who thinks about only two things—cars and girls—I cannot say that, given the opportunity, I would take a day with the Corvette over a day with Kate Upton.

SEAN KIEL-LOCEY
Ann Arbor, Michigan

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ACURA NSX / BMW 3 SERIES / McLAREN 570S / FERRARI 488 SPIDER / AUDI A3 E-TRON

Acura's new NSX is not what you anticipated

STEALTH PLUS SPEED

SONOMA, CALIFORNIA

0

our list of questions ran off a notebook page. We know what to expect from a new Porsche or Ferrari mid-engine coupe, but we couldn't say the same of one from Acura. Its parent, Honda Motor Company, hasn't taken a stab

at such a sports car since it first released the NSX 25 years ago, and the new, 2017 version has no direct connection to that model other than its name.

The original was quick, inspirational, and offered a midengine sports car to many who could never afford a Ferrari. We've heard whispers of an NSX successor ever since production of the last model ended in 2005. This NSX started with a Japanese-led Acura team using a naturally aspirated engine before finally morphing into a turbocharged hybrid developed largely by an American team. Building began as early as 2007, with the idea that it would have a V-10, but the weak economy intervened. Then, when Honda started in earnest in 2012, the technological horizon kept moving. The idea that a transverse-mounted, naturally breathing V-6 was enough was eventually nixed. A wholly new unit would be needed.





STILL LOOKING FORWARD

BY MICHAEL JORDAN

As the sun sets behind

mountains at Palm Springs airport, fading light reflects in the windshields of 165 examples of the NSX, one of the largest-ever gatherings of this car.

This is NSXPO, an annual event organized by the NSX Club of America. But instead of doddering old guys talking about old times, these NSX enthusiasts are younger, multicultural, male and female.

Many remember the original NSX as the first mid-engine supercar that proved reliable and easy to drive. Fewer recall it also introduced leading-edge technology that made the contemporary Ferrari 348 and Lamborghini Diablo seem like farm machinery: a highrevving DOHC V-6 with variable valve timing and lift, throttle-bywire, all-aluminum chassis and bodywork, aluminum suspension pieces, and four-channel ABS, not to mention track tuning by Formula 1 champion Ayrton Senna. Sold in the U.S. between 1991 and 2005, the car was built on a special assembly line by 200 of Honda's finest, each of whom had to have at least 10 years of experience. Of 18,685 cars built, Acura sold 8,999 in the United States.

Surprisingly, NSXPO has the scent of tortured tires, not car polish. Here at the Thermal Club, a private motorsports operation, NSXs are on the autocross track

or on the road course. Some look stock, while others have hot-rod pieces from Japan. All drivers will also find time to complete the famous Palms-to-Pines loop through the mountains above Palm Springs. Their cars might be old now, but they still see them as representative of what is to come rather than what has been.

"When we were all Honda street racers in the 1990s, the NSX is the car we wanted," says one club member. "It's high tech but so usable that you can race it one day, go to the grocery store the next." Every owner tells us about the special zing the mid-engine package gives you when your cornering technique is just right. And as we learned while driving a 2005 NSX from the Honda museum throughout the event, the car's driving position behind the vast canopy makes you feel like you're flying an F-16, just as chief engineer Shigeru Uehara intended.

Contrary to a large portion of automotive industry watchers, no one here at NSXPO is confused about the Acura brand. As one of the NSX faithful said to me, "During Monterey week in August, the new NSX, the new McLaren MP4-30 Honda F1 car, and the new HondaJet HA-420 aircraft were all shown together. How cool is it to be part of a company like that?"

Driven

No wonder fans have been left with a giant, hovering question mark. A nutshell answer: The new NSX is as contrarian and occasionally conservative as the parent company itself. And it absolutely earns its moniker.

Like Porsche's 918, McLaren's P1, and BMW's i8, the NSX uses electric motors to lend instantaneous torque off the line. The all-new 3.5-liter, twin-turbo V-6 gasoline engine is mounted longitudinally behind the cockpit and makes 500 hp and 406 lb-ft of torque. Peak power, using the electric motors, is 573 hp and 476 lb-ft. A direct-drive electric motor is attached to the engine's crankshaft, and both work in

NSX an all-wheel-drive coupe, but it can also function as a front-wheel-drive EV for short periods of time when it operates in Quiet mode.

Weight is complexity's downside: 3,803 pounds, with 58 percent distributed to the rear. The chassis employs a mix of aluminum, high-strength steel, and a carbon-fiber floor. Body panels are a mix of aluminum and sheet molding compound. Acura claims the chassis is more rigid than the Ferrari 458's—one of the cars it benchmarked along with the latest Porsche 911 Turbo and previous-generation Audi R8 V10 Plus.

The hybrid powertrain was



concert with an all-new nine-speed wet-dual-clutch transmission. The rear electric motor adds power, functions as a generator to help recharge the lithium-ion battery pack, and serves as the starter motor. (Note: The NSX is not a plug-in hybrid.)

A twin-motor unit is housed up front. These two electric motors each drive a front wheel and are otherwise mechanically independent from the rest of the powertrain. Upon demand, they add extra torque together or independently, aiding acceleration or cornering. In the latter case, they send power to the outside wheel while the inside wheel is slowed to produce torque vectoring. This makes the

developed in Tochigi, Japan. But nearly everything else, from chassis, powertrain integration, interior, and final styling, was a product of the American team in Raymond, Ohio, and the Acura Design Studio in Los Angeles. The car will be built in a new plant in Marysville, Ohio.

Ted Klaus, NSX global development leader, says discussions were often ones of philosophy rather than individual technologies: What did they want the new NSX to be? What should the NSX represent as a company halo?

"We think we're going to unsettle the sports-car world," he proclaims. "This is a different kind of sports car than currently



Sport+ and Track mode. In fact, it is possible to forget that you're even in a mid-engine car, owing to the

Driven 2017 ACURA NSX

stability and the relative lack of rear sound. This will bum out some enthusiasts.

On day one at Sonoma Raceway in Northern California, we engage launch control: Select Track mode, left-foot brake, put gas to the floor, release the brake. A blip of seconds later, the NSX cleaves through the air at 60 mph on its way to 100. (As is Honda's wont, it plays coy with 0-60 mph numbers. Our best ass-feel guess is 3.4 seconds.)

But it leaves us cold. It's fast but doesn't feel fast fast. It doesn't grab us by the scruff, sucker punch us in the solar plexus as we stomp the gas, or chuff us in the chin each time it snap-crackle-pops to the next gear.

Skip ahead to the end of our second day with the car, after we gobble several hundred miles of twisty roads. Our expectations are better tuned with the NSX's capabilities. A typical moment: A Prius ahead plods its way through the foothills. We shove down the throttle, and the blue NSX performs two near-instantaneous downshifts. We don't feel the change in the car's spine, none of the chassis tremor that | 34.02.2016

THE SPECS

ON SALE:

Spring 2016

BASE PRICE:

\$150,000 (est)

ENGINE:

3.5L twin-turbo DOHC 24-valve V-6/500 hp @ 6,500-7,500 rpm, 406 lb-ft @ 2,000-6,000 rpm; with three electric motors, 573 hp and 476 lb-ft (combined)

TRANSMISSION:

9-speed dual-clutch automatic

LAYOUT:

2-door, 2-passenger, mid-engine, AWD coupe

EPA MILEAGE:

N/A

I x W x H:

176.0 x 47.8 x 87.3 in

WHEELBASE:

103 5 in

WEIGHT:

3,803 lb 0-60 MPH:

3.4 sec (est)

TOP SPEED:

191 mph

comes in the Lamborghini Huracán when it drops down twice. The nine-speed gearbox is in many ways as good as Porsche's PDK but as polite as a Japanese businessman.

Closing speeds are incredible, and the time the two Japanese cars exist side by side is infinitesimal. We're back into the right-hand lane in a lightning second, carrying huge speed into an uphill sweeper. The Prius exists somewhere behind us as a blip in time and space. Our passenger, reading an e-mail on his cell, never even looks up. So yes, the NSX is exceptionally fast, but you need the context of a good winding road to truly realize it because neither the engine behind you nor a shriek of tires nor squeal of brakes will announce it.

The NSX employs what the company terms the "next generation Sport Hybrid Super Handling All-Wheel Drive," but active torque vectoring sometimes means a car doesn't always respond as you expect it to. On the racetrack, we treat it briefly like a last-gen Audi R8 or today's

Huracán: Turn early, induce a bit of yaw so the nose points to the exit, and allow the AWD to power out. But this torque vectoring is best when you trail-brake through a corner. Follow a traditional line, carefully managing both brake pressure and throttle, and the car rewards you. You can carry great speed into corners, but get back on the power too early and prepare to understeer like mad. Also of note, the stability and traction controls are too conservative and can be turned off completely only in Track mode. Even then they step in if the car senses an impending spin.

Still, when it comes to the original NSX's delights, this one mostly delivers. Expect its base price to run north of \$150,000. That's well cheaper than any Ferrari or Lamborghini but puts it within sparring distance of upper-end Porsche 911s and McLaren's new 570S, and makes the Jaguar F-Type R a bargain. Ultimately, Acura's approach is a surprising one, and some will knock its philosophy. But this NSX isn't soft rock. More like a power ballad.





VICTORY IS SWEDE.



And sweet, too. Because winning the **2016** *Motor Trend* **SUV** of the **Year**® award is an accomplishment that makes us, at Volvo, extremely proud. Especially considering every single part on the all-new 2016 XC90 was completely redesigned. A feat that didn't come easy, but definitely paid off.

CHIHUAHUA, MEXICO



e've had something of a love/hate relationship with the current-generation BMW 3 Series since it debuted for the 2012 model year. We tested a 328i Luxury Line model as a Four Seasons car and appreciated the power and pace from its turbocharged 2.0-liter fourbanger. But we couldn't shake the feeling

that something was missing, that this 3 Series was lacking the magical fun-to-drive quotient that has traditionally secured its status as the gold standard of the compact sport sedan class.

Then we drove a Sport Line variant of the 328i equipped with BMW's optional Adaptive M suspension. Now this was more like it. The steering and chassis response, the grip, the controlled ride—they were all present and accounted for. We simply did it wrong. The correct option boxes were left unchecked, and this made all the difference between a sport sedan and a luxury sedan. The new 2016 BMW 3 Series ("refreshed" is a more accurate term) continues to have this split personality. Fill out the options form incorrectly and you risk winding up with a 3 Series your mom will love but you'll regret.



A cursory look at the exterior of the 2016 3 Series reveals the expected nip-tuck treatment at each end. The nose gets new LED headlights spaced farther apart, along with larger air intakes in the front valance. The rear end is similarly revised with new LED taillights, dual exhaust tips, and a sportier-looking rear apron. Inside the cabin, new ambient lighting and various trim bits further jazz up BMW's bread-and-butter model. BMW has also decided to make certain Sport Line trim elements—including black exterior trim, sport seats, and the sport instrument cluster—standard equipment for the 320i and 328i.

BMW has also tuned up a few key mechanical and chassis elements, including revising the electric-assist steering system, strengthening the mounting points of the front suspension struts, and firming up the rear dampers for better dynamic response. The standard eight-speed automatic transmission is claimed to be more fuel-efficient with a wider spread of gear ratios and reduced torque converter slip between shifts.

But the big news for the 2016 BMW 3 Series lineup centers on waving goodbye to the 335i model and saying hello to the new 340i. What's this BMW 340i all about? A new engine, primarily.

As before, options make all the difference with the refreshed 3 Series



Driven



The 340i's all-new inline-six (B58 for you BMW code geeks) shares its 3.0-liter displacement with the outgoing N55 engine from the 335i, but little else. The all-aluminum mill is part of BMW's new EfficientDynamics engine family. Its closed-deck design and thermally joined, specially coated cylinder liners will eventually be shared with other BMW four- and six-cylinder engines. The newly designed twin-scroll turbocharger helps

boost output to 320 horsepower (up 20 hp over the 335i) and torque to 332 lb-ft that's available from just 1,380 rpm. If you prefer a six-speed manual transmission (and you probably do), it is a no-cost option and features a new dual-mass flywheel with an available rev-match function for downshifts. Like the 320i and 328i, the 340i comes standard with the Sport Line package and is available in either rear-wheel-drive or

all-wheel-drive (xDrive in BMW speak) configurations.

But here's the really special part. BMW's new Track Handling package is available on all gas-powered 3 Series models for 2016 and includes a number of options that would-be hot shoes will crave. Variable-ratio sport steering, M suspension, and M Sport brakes with high-temperature pads are all part of the group, along with 18-inch cast-aluminum wheels wrapped in Michelin Pilot Super Sports (one of our favorite street/track tires).



2016 BMW 340i

And so it was that BMW turned us loose in a fleet of gleaming new 340i sedans to attack the scenic switchbacks in the majestic Copper Canyon region outside of Chihuahua, Mexico. The first of two cars we drove was an automatic-equipped, rear-drive 340i with the standard suspension, brakes, and tires. The new 3.0-liter inline-six is a sweetheart of an engine, though with a faint hint of initial turbo lag. But the pull from 3,000 rpm to redline is ferocious, and the engine sounds just as happy to rev



as we were to rev it, BMW's silky smooth straight-six delighting us at full growl. The revised eight-speed automatic is also a pleasure to use, with speedy manual shifts with the paddles, though the upshifts could be a bit smoother. Built-in harshness designed to elicit a sportier feeling? Wouldn't be the first time.

Still, there was something amiss with the first BMW 340i we drove, that same feeling we had with our long-term 328i. It wasn't until we sampled a manual-equipped car with the track pack that we figured it out. In the track pack version, the steering feels sharper and better weighted; the car turns in more eagerly on the Super Sport tires (and dare we say it, rides even better); brake pedal feel is significantly firmer and more responsive. This 340i was also



GIVING THEM WHAT

BY RORY JURNECKA

When BMW brought

the X1 to the U.S. in 2013, it felt like a return to form for the purveyors of "Ultimate Driving Machines." A "less is more" approach meant the X1 avoided the complication and bloat of other recent BMWs, lending it a simpler, more connected driving experience.

But buyers didn't seem to care all that much for the X1's playful, fun-to-drive character, and a sizable chunk of the 68,000 or so first-gen X1 owners instead complained about its lack of cargo space and its low, carlike seating position. The consensus was that the X1 felt more like a lifted hatchback than a compact crossover.

So, you could guess, the latest X1 is bigger, rides higher, and holds more stuff. The driving position is more commanding than before, the cargo area is bigger, and there's more cubby space, thanks to a lower center console.

Back-seat passengers get an extra 1.5 inches of legroom, and new, optional 6.5- or 8.8-inch infotainment screens are available, as is the latest version of BMW's full-color head-up display. The Driver Assistance Plus package rounds up safety features such as lane departure warning, frontal collision warning, and active cruise control for those willing to plunk down the extra cash.

Sadly the six-cylinder engine is gone, a victim of low take rate, so just one powertrain is available: an all-new, all-aluminum 2.0-liter turbocharged inline-four with 228 horsepower and 258 lb-ft of torque that's mated to a new eight-speed automatic. The X1 is the first BMW to deploy this new powertrain, which is modular for sizing up or down.

All this means that while the new X1 is a more practical, usable vehicle, it's less fun to drive than before, even

THE SPECS

ON SALE: Now BASE PRICE: \$35,795

ENGINE:

2.0L turbocharged DOHC 16-valve I-4/ 228 hp @ 5,000 rpm, 258 lb-ft @ 1,250 rpm

TRANSMISSION:

8-speed automatic **LAYOUT:**

4-door, 5-passenger,

front-engine, AWD SUV **EPA MILEAGE:**

22/32 mpg (city/hwy)

L x **W** x **H**: 175.4 x 71.7 x 62.5 in

WHEELBASE:

105.1 in **WEIGHT:**

WEIGHT

3,660 lb

0-60 MPH: 6.3 sec **TOP SPEED:**

130/143 mph (base/optional)

when equipped with the optional M Sport package and suspension. Not only does the X1 feel larger and not quite as glued-down, but the new turbo-four is also unresponsive at low rpm, and the eightspeed gearbox doesn't keep up on spirited drives. No doubt BMW will tweak the 0s and 1s in its software to improve both issues, and neither should concern the daily-grind types who will appreciate the X1's updates.

■ Driven 2016 BMW 340i





equipped with xDrive all-wheel drive, which helped put power down coming out of corners. At quick-but-sane speeds, the setup allows for a bit of rotation toward the apex in the corners and virtually no push. While the standard 340i felt oddly disjointed and uncoordinated, the track pack-equipped car felt dynamically fluid and completely of a single piece.

Later in the day, after the BMWs were shut down and stashed away, engines softly ticking as they cooled, a BMW



The 2016 3 Series' bolder exterior details offer a hint at the gutsier 3.0L straight-six underhood in the 340i spec.

THE SPECS

ON SALE:

Now

BASE PRICE: \$46,795 (\$48,795 xDrive)

ENGINE:

3.0L turbocharged DOHC 24-valve I-6/320 hp @ 5,500-6,500 rpm, 332 lb-ft @ 1,380-5,000 rpm

TRANSMISSIONS:

8-speed automatic, 6-speed manual

LAYOUT: 4-door, 5-passenger, front-engine, RWD/AWD sedan

EPA MILEAGE:

20-22/29-33 mpg (city/hwy)

LxWxH:

182.8 x 71.3 x 56.3-56.5 in

WHEELBASE:

110.6 in

WEIGHT:

3,665-3,820 lb **0-60 MPH**:

4.6-4.9 sec

TOP SPEED:

130/149-155 mph (base/optional)

engineer asked us for our impressions of his latest baby. As we emphasized how much fun the track pack car had been to drive and that we were left a little cold by the standard model, he nodded slowly and smiled a knowing smile. Most 3 Series buyers won't care a lick about brake or steering feel or the way their car turns in and takes a set through a series of S curves. But for prospective 2016 BMW 3 Series buyers who think like us, bliss is just a \$1,700 option package away.







The Man, the Legend, the Watch... Jimmy Stewart Comes to Town

He was the ideal man. Both on screen and in real life, he was honest and true, courageous and kind. From "Mr. Smith Goes to Washington" to "It's a Wonderful Life," no man more fully embodied the American spirit than James Maitland Stewart. He was more than an Academy Award-winning actor. He was an American hero.

And now for a limited time only, you can own a part of the legend with our exclusive *Jimmy Stewart Bomber Watch*.

Jimmy Stewart was the first Hollywood star to don a military uniform in WWII. The government wanted to use him solely as a recruiting tool, but Stewart wasn't about to be left out of the fight.

Long an avid pilot, Stewart was assigned to the 445th Bomber Group, becoming its commander in just three weeks. Later, he could have opted out of flying but chose not to, racking up 20 official combat missions.

It's in honor of his military service that we're offering the *Jimmy Stewart Bomber Watch*, inspired by World War II pilot watches. This high-precision chronograph is crafted of stainless steel with a rose gold-finished bezel with Jimmy Stewart's signature at 9 o'clock. Complications include a date window as well as a stopwatch and separate windows for minutes and seconds. And in case the wearer



Jimmy Stewart; Academy Award Winner, Bridgadier General, American icon.

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McLaren finally gets it with the 570S

FARO, PORTUGAL

ur first beer of

the evening is a small European one, but it will certainly be the last because already our mind is playing tricks. We're sitting at a dinner table with Mark Vinnels, McLaren Automotive's director of new vehicle programs. We're at the launch of the new 570S and talking development targets, rival cars, and all the usual stuff. The 570S is McLaren's new Sport Series car to join the established Super Series (650S and 675LT) and Ultimate Series (P1 and

P1 GTR). To you and us, this means it is a Porsche 911 Turbo S or Audi R8 competitor, but Vinnels doesn't seem to want to talk acceleration figures or lateral g. He's all about the subjective, the involvement. The 570S represents the new McLaren, then, one with an assured identity and the understanding that numbers alone do not define a great car.

"We didn't want to chase lap times or downforce," begins Vinnels. "This car is about feel and feedback, about the driver interacting with the car. In some ways we want to re-create the thrill of cars with skinny tires and no power-assisted steering. We can't go that far, but it's that spirit of adjustability. Some customers have never experienced great steering before, and some of our competitors don't seem to care. We want to dive into that space, for McLaren owners to know that sensation."

This should warm the cockles of any enthusiast, and our confusion stems not from the message itself but the source. In McLaren Automotive's early days, the



simple notion of "enjoyment" was buried beneath endless objective targets. For example, the convoluted Masonic handshake required to disable the MP4-12C's traction control was a metaphor for the whole car: Come and be impressed; just don't get any ideas about influencing how this car goes down a road. The 570S, according to Vinnels at least, approaches the whole supercar thing with a philosophy diametrically opposed to those early days of shock, awe, and graphs.

It's not the scale of the performance that defines the 570S but the way in which the driver can harness it.



We'll find out if that's true in due course on the utterly fantastic Portimão race circuit near Faro, Portugal, and on roads draped over the surrounding hills. But if McLaren will forgive the impudence, let's talk numbers first. You know the basic ingredients already because you've seen them in the 12C, 650S, and 675 LT. At the core of the 570S is a carbon-fiber MonoCell tub, here modified for easier cabin entry and said to be marginally stiffer too. It's dubbed, predictably, MonoCell II. Mounted behind the

two seats is the familiar 3.8-liter V-8 with two turbochargers, and it still drives through a seven-speed dual-clutch transmission. The \$187,400 sticker price, on its face, seems like the bargain of the century when you consider a 650S with similar hardware costs \$273,600.

However, aside from the small matter of the missing 79 hp and 57 lb-ft of torque—though 562 hp at 7,400 rpm and 443 lb-ft at 5,000-6,500 rpm is hardly shabby—there is some cost-shaving evidence when you look at



FURTHER EVIDENCE

New 675LT proves 570S is no one-off in engagement

TOWCESTER, ENGLAND

The McLaren 675LT

(for Longtail, a nod to McLaren's Le Mans-winning F1 GTR) doesn't so much up the ante from the 650S as tear down the formula and reinvent it with tighter focus and a touch of unadulterated fun.

The car the 675LT is based on, the 650S, is dizzyingly fast, supremely controlled, and covers ground at a rate that would make a Nissan GT-R owner weep into his q meter. But it's also astonishingly forgettable and, fortunately, the 675LT is anything but. It has a vastly improved gearbox that fires home upshifts with a sensational crack of ignition cut, superbly detailed steering, a 50 percent larger airbrake, an 80 percent larger front splitter, new electronic turbo wastegates that improve throttle response, a retuned ProActive suspension setup with parts similar to those under the P1, and pages worth of other upgrades.

Downforce increases 40 percent, and curb weight decreases by

220 pounds. The 3.8-liter twin-turbo V-8 produces an unholy 666 horsepower, and McLaren claims 0 to 60 mph in about 2.8 seconds, 0 to 100 mph in 5.5 seconds, a quarter-mile time of 10.45 seconds at 142 mph, and a top speed of 205 mph.

The fact that 60 percent of the 675LT is different would be for naught if the LT didn't feel different, but it does. It triggers a raw emotional connection, and you feel both admiration and affection for the car McLaren has limited to 500 units worldwide at an \$80,000 premium over the 650S. The LT's engine sounds angrier when you start it, and its fixed-back carbon-fiber seats tingle and vibrate. One rotary dial adjusts drivetrain settings, another influences the chassis, and each has Normal, Sport, and Track settings you can mix and match. On the narrow roads around Silverstone race circuit, the 675LT feels focused with a taste of rawness, but its ride is still pliant enough to cope with all but the worst

THE SPECS

ON SALE:

Now (sold out) PRICE:

\$353,600

ENGINE:

3.8L twin-turbo DOHC 32-valve V-8/666 hp @ 7.100 rpm, 516 lb-ft @ 5,500-6,500 rpm

TRANSMISSION:

7-speed dual-clutch automatic

LAYOUT: 2-door, 2-passenger, mid-engine, RWD coupe

EPA MILEAGE:

16/22 mpg (city/hwy)

LxWxH:

179.0 x 75.2 x 46.8 in

WEIGHT:

2 950 lb (est)

0-60 MPH:

2.8 sec (est)

TOP SPEED:

205 mph

surfaces. The car has sacrificed some comfort for added communication and bite, but forgoing notional usability has added involvement and a sense of occasion.

Around Silverstone, the 675LT is even more impressive. Its chassis doesn't default into understeer but stays neutral as you lean deeper into the reserves of grip and prefers a lick of oversteer to a push of understeer. The drivetrain delivers surreal performance, and the high-speed stability and playfulness share much with the P1. We're sure McLaren's hypercar wouldn't be much quicker around the racetrack.

The 675LT combines intensity, fluidity, and jawdropping performance to stunning effect. It feels unshackled, happy to celebrate the irreverence of the supercar breed. Like the 570S, it is a special and significant car for McLaren, another one that makes us think the automaker has really found its identity. -JB

Driven

the suspension. Gone is McLaren's hydraulically linked ProActive Chassis Control system; in its place are conventional, though still electronically variable, dampers and good old-fashioned anti-roll bars. It's a heavier and cheaper solution, but we hope it might actually enhance the feel and feedback we've heard about. Even Vinnels quietly admits it's probably a more predictable, intuitive setup.

Less than a full lap of Portimão allows the 570S to demonstrate those qualities in abundance. Let's not for a moment pretend this isn't a searingly fast car: 0-60 mph in 3.1 seconds and 0-124 mph in 9.5 seconds. As McLaren promised, however, it's not the scale of the performance that defines the 570S but the manner in which the driver can harness it and feed it to the surface on his own terms.

Immediately you feel connected to the car by tactile steering of remarkable clarity. The rack is quicker than a P1's but not quite as aggressive as a 675LT's, and it feels perfectly judged, imparting a real sense of agility. The first righthand hairpin reveals strong front-end grip and none of the understeer you can feel in the 650S. The engine actually doesn't feel quite as strong as the official acceleration figures suggest, but again the balance of grip and power is defined sweetly, and the 570S exits corners with just a shade of oversteer, smoothed away neatly by the new Dynamic setting for the stability control system.

On the circuit we've got the powertrain and handling systems set to Track with the ESC button pressed once to access Dynamic mode. Body control is superb, but this isn't a locked-down, all grip and no finesse sort of car; you're busy at the wheel, calming the 570S as you brake from high speeds over the bumpy, cresting braking zones that litter Portimão, gently correcting mid-corner and exit oversteer. It really is an immersive, involving experience, and we're absolutely delighted McLaren has created such an enjoyable, malleable platform for

2016 McLAREN 570S

drivers to truly express themselves. There are moments when we really get the measure of the car—turning it in on the brakes, feeling the tail point the nose into the apex, and then exiting with the steering wheel straight and the car set up in an easygoing four-wheel drift. Vinnels was right when he mentioned re-creating long-lost thrills with modern levels of grip, composure, and raw performance.

On the roads the 570S faces an even tougher challenge. Dynamically it remains poised, nimble, and with a real lightness of touch, but the real question is whether it delivers the quality and sheer ease of use of the indomitable Porsche 911 Turbo S and vaultlike Audi R8. Some things are inescapable: Despite the radically cut-away sill sections and new door mechanism that sweeps further up, the 570S is not the easiest car to drop into or climb out from. And you might arrive at your waypoint a little frustrated from the pretty average navigation system while wondering if some of the buttons and dials are befitting of a \$187.400 car. The 570S is

THE SPECS

ON SALE:

December

BASE PRICE:

\$187,400 ENGINE:

3.8L twin-turbo DOHC 32-valve V-8/562 hp @

7,400 rpm, 443 lb-ft @ 5,000-6,500 rpm

TRANSMISSION:

7-speed dual-clutch

LAYOUT:

2-door, 2-passenger, mid-engine, RWD coupe

FUEL MILEAGE:

16/23 mpg (city/hwy) (est)

L x W x H:

178.3 x 82.5 x 47.3 in

WHEELBASE:

105.1 in

WEIGHT:

0-60 MPH:

3.1 sec

TOP SPEED:

204 mph



It's tactile steering, not just outright speed, that will connect you to the 570S.



actually a very special place to be and feels more spacious and comfortable than a 650S, but perceptible quality is not on par with German competitors right now.

Of course the 570S does things the Germans can't. The carbon-fiber construction means it's considerably lighter than the competition at 3,186 pounds (an Audi R8 V10 Plus comes in at about 3,450), and you feel the difference every time you ask the car to change direction. This is a seriously agile chassis that seems to burst with energy at all times. The steering feel is even more

impressive on the road, and its texture and subtle shifts of weight through any given corner provide an amazing amount of detail about the car's behavior and the grip offered by the surface. And while the engine can't match the response or howling ferocity of a naturally aspirated V-10, it really does start to feel unsettlingly fast once you pass about 4,500 rpm, especially away from the wide expanse of a race circuit. Overall, its blend of 911 Turbo S performance, GT3-like agility, and true supercar star quality that so appeals in the R8 is unique and deeply covetable. McLaren nailed this one.

IT REALLY IS AN IMMERSIVE, INVOLVING EXPERIENCE, AND WE'RE ABSOLUTELY DELIGHTED McLAREN HAS CREATED SUCH AN ENJOYABLE, MALLEABLE PLATFORM FOR DRIVERS TO TRULY EXPRESS THEMSELVES.



THE TALE OF THE ALL-NEW

2016 MALIBU

AS TOLD FROM AN ENGINEERING AND DESIGN PERSPECTIVE.

We sat down with designers Mike Pevovar and Crystal Windham, and integration manager Lance Johnstone to talk about the innovation that went into developing the next-generation Malibu.







In terms of design, what are some defining features of the all-new Malibu?

Mike: The Chevrolet Malibu has a road presence that balances form and function in a way that will turn heads. When creating the "new face of Chevy," the grille, headlamps and daytime running lamps all laid the foundation for the expressive, windswept body lines. The design is assertive and confident, as emphasized by its solidly planted stance. Long, dramatically sweeping surfaces really make Malibu stand out from the crowd. The whole vehicle feels tidy and taut – something you could throw around a little.

Crystal: Malibu interior design is all about maximizing comfort with style. The instrument panel is down and away for more driver space, but the available touch-screen is up to 8 inches. We offset and slightly floated the screen to use space better. That's pretty daring for this market, but glare and reach are optimized for a driver. Also, the softest materials are closest to the customers, and the details are outstanding—lots of inserts and accents of different textured leather appointments,

intricate stitching—it's taking those expressive zones and adding more. We want to surprise people, not just the first time, but the second time, third time—like, "Wow ... they have this little pocket here for my umbrella!" and "Wow ... so this is what my car looks like at night!"

How do interior and exterior design elements of the all-new Malibu complement each other?

Mike: The extra 1.3 inches of rear leg room set the stage for exterior design—it stretched everything, so we used that to set up body proportions to make the vehicle look lower, longer and wider. Also, the sixth rear quarter panel window not only increases visibility and brings more sunlight inside, it helps make the car look lighter, more airy and more spacious from the outside.

Crystal: When you start with a solid exterior foundation with correct proportions, the interior design architecture comes together naturally, and we can focus on improving visibility and comfort. I always say the exterior draws you in, but the interior keeps you there. Drivers spend so much time in their car, so it should feel like a second home.

66 We want to surprise people, not just the first time, but the second time, third time...**55**

Crystal Windham, INTERIOR DESIGN DIRECTOR



LANCE JOHNSTONE

VIRTUAL PERFORMANCE INTEGRATION MANAGER

The 2016 Malibu is quieter, offers improved mileage and better handling. How could you improve Malibu on so many dimensions simultaneously?

The key is integration — working with all of the vehicle components and vehicle teams simultaneously to create the lightest, best performing structure for the vehicle. The ultimate goal was to design Malibu with surprising MPG with less mass, but no reduction in performance. Integration allowed us to work through all of the consequences of using one part or another, and combining components. It allowed us to optimize more and compromise less, and it really paid off in the all-new Malibu. We were able to remove nearly 300 pounds from the vehicle — making it the lightest vehicle in its class, all the while offering an estimated 37 MPG highway!

What technologies aided in optimizing vehicle integration with the Malibu design team?

Computer-assisted engineering has progressed to the point where it allowed us to explore and virtually evaluate more design alternatives for the new Malibu than ever before. This gave us new insights by showing us how these alternative designs for the vehicle structure could improve performance across numerous different vehicle-performance dimensions. These internal structural improvements then paved the way for new external design considerations and possibilities. The engineering improvements optimized performance and mass, enabling MPG and also had an impact on the exterior's great design.



BOLOGNA, ITALY

h, purism. Who doesn't want life to be authentic, emotional? In car land, that supposedly means a manual transmission, no electronic aids, and unfiltered high-revving engines. Ferrari was propelled by this minimalistic no-frills philosophy for about two-thirds of the marque's history; it wasn't until the addition of a Formula 1-style transmission for the F355 in the late 1990s that a shy bird called progress began nesting in Maranello.

High technology since then has played an ever-bigger part. As examples, consider the 360 Modena's aluminum spaceframe, the FF's all-wheel drive, the LaFerrari's hybrid boost, and most recently the 488's state-of-the-art turbo power—now available in Spider form.

The direct route from Forli in the middle of Italy to Cesenatico on the Adriatic coast wends its way through a spectacular no man's land of roads that zigzag across Ektachrome-tinted mountains, over lush, voluptuous hills, and through narrow, barren valleys. The road surface ranges from outrageous to downright dangerous: In this neck of the woods, traffic density and driver discipline haven't changed much since the Mussolini era. When you encounter an oncoming vehicle, it likely is a wayward school bus, a Fiat Panda piloted by an apparently blind driver, or a white Fiat Ducato van ambitiously hugging the racing line.

For the first 20 minutes, the aroma of leather upholstery and factory-fresh carpet blends with those of freshly harvested fennel, roadside vineyards heavy with late red grapes, and wet fallen leaves.

For the 150 miles that follow, other smells assault us: Pirelli tires, acrid brake dust, hot Shell lubricants, and pungent Supercortemaggiore gasoline.

The experience doesn't differ fundamentally from the 488 GTB coupe, but perception changes when you lower the roof to create an environment of big sky, immediacy, and freedom. Noise increases, temperature drops, and nature is omnipresent when a gust of wind reaches out for our hat at well below 100 mph. The Spider's twin-turbo, 3.9-liter V-8 modulates its loud coloratura in 7.1 surround sound, the 20-inch tires sing a high-pitched falsetto through the flat-out esses of the superstrada, and the brake pads grind angrily on the carbon-ceramic discs, easily out-humming the drag-reducing aero deflectors. Crowning the jam session is the 488's orchestral



2016 FERRARI 488 SPIDER | BY GEORG KACHER



the road.

Spider and coupe versions of the 488 accelerate from 0 to 60 mph in about 3 seconds flat, a heartbeat quicker than the awesome F12 and on par with the Lamborghini Aventador Roadster. As far as maximum speed, at 203 mph the 488 drop-top loses 6 mph to the coupe. With the windows up and the glass wind-deflector in place, the Spider's calm interior is like being in the eve of a hurricane.

The 488 in general comes with a high price, long waiting list, and zero points on the stealth meter. Plus, you can forget about a clutch pedal and a shift lever. But it does deliver interplay with the shift paddles that puts a permanent grin on your face. With the car in Race mode (traction control and ESP on), gear changes are obscenely fast. Full-throttle upshifts are physical, delivering a hard kick in the butt before laying on more revs. In typical Ferrari fashion, the shift paddles are attached to the steering

THE SPECS

ON SALE: Spring BASE PRICE: \$275,000 (est)

FNGINF.

3.9L twin-turbo DOHC 32-valve V-8/660 hp @ 8,000 rpm, 561 lb-ft @ 3.000-6.750 rpm

TRANSMISSION:

7-speed dual-clutch automatic

LAYOUT:

2-door, 2-passenger, mid-engine, RWD convertible

FUEL MILEAGE:

15/22 (city/hwy) (est) LxWxH:

179.8 x 76.9 x 47.7 in WHEELBASE:

104.3 in

WEIGHT:

3,362 lb

0-60 MPH: 29 sec (est)

TOP SPEED: 203 mph

column, so they are always in the same position. This makes them easy to find, and we are reluctant to abandon manual mode.

When cruising through towns, automatic mode does a decent job of muffling exhaust noise by selecting the highest possible gear, shifting with velvet gloves, and slipping into neutral when you lift off the throttle. Encouraging such a relaxed calibration is the conspicuously torquey twin-turbo engine, which needs only 3,000 rpm to dish up a towering 561 lb-ft. Although the maximum output of 660 horsepower requires an elevated 8,000 rpm, the urgent torque delivery is what matters most from A to B. So why is the Ferrari community stubbornly mourning the discontinuation of the naturally aspirated 458 engine? Well, it offered an extra 1,000 rpm to play with, sounded even wilder,

and tradition always feels threatened by innovation. On the other hand, an empirical reminder of the fruits of progress: The twin-turbo V-8 responds 0.8 second quicker to throttle inputs than the old naturally aspirated 4.5-liter; the 488 accelerates from 0 to 125 mph in just 8.7 seconds; and the new car out-accelerates its predecessor by 25 percent, gear for gear. The new car also stops shorter. And while boasting more aerodynamic downforce front and rear, fuel consumption is better.

Pricing is not settled, but our connections say the 488 Spider will command about \$12,000 more than the 458 Spider. And while it uses totally modern means to support its purist impulses, the price somehow seems reasonable as the 488 Spider flirts with perfection like few cars of the modern era.

Driven



A dashboard button allows the driver to switch among four modes: EV, Hybrid, Hold Battery, and Charge Battery, You'll find the Sport setting on the shifter.

PALO ALTO, CALIFORNIA

or every gaggle of Toyota Prius owners who flaunt the car's electrified mobility, a

discerning few enthusiasts search for an involving but discreet hybrid driving experience. For these cognoscenti, there's the 2016 Audi A3 Sportback e-tron.

Even here in Palo Alto, abounding in brainiacs and Greenpeace proselytizers, few recognize this new Audi as a plug-in hybrid, a distant relative of Audi's Le Mans-winning R18 prototypes. The A3 e-tron, the first Audi production car to wear the e-tron label, combines an advanced powertrain with the refined goodness of a rather nondescript four-door hatchback.

This means no one looking at you will be able to guess how much you donated to National Public Radio, how many kale fronds go into your smoothies, or what your favorite yoga pose is. The only visual cues that distinguish the e-tron from the normal (and relatively rare-onthe-ground) A3 are a grille with an integrated charge port, unique 16- or available 17- and 18-inch wheels, and a couple of easily overlooked badges. Perhaps the biggest clue to this newcomer's identity is the apparent lack of exhaust pipes, which are tucked far below the rear bumper.

In other words, invisibility is achieved despite our test car's red paint, not exactly the A3's most flattering color. Slipping into this invisible A3 e-tron, we noticed the steering wheel's just-right thickness and the comfortable leather-upholstered seat. The EV-status dial replacing the tachometer in the instrument cluster was the most obvious tip-off that we were inside an electrified automobile. We pressed the start button, and the slender information display screen arose from the dashboard, an Audi trick that never gets old. Getting underway, we marveled at the lack of impact harshness and the suppleness over rough patches: a truly premium ride.

Only then did we remember the propulsion system. We snuck away under the sycamores, and tire noise was the loudest sound inside the cabin. The A3 e-tron is capable of 16 miles of driving on its 8.8-kW-hr lithium-ion battery; it achieves a combined economy of 35 mpg with the gasoline engine and 83 mpge with the hybrid system.

Audi's product planning chief, Filip Brabec, boasted the A3 e-tron can be a household's only car. The battery pack consists of eight cell modules, each with 12 liquidcooled cells. This mass is located beneath the rear seat and ahead of the rear wheels, so the rear seats fold flat and cargo space is preserved. Measuring 169.8 inches long, 77.4 inches wide, and 56.1 inches tall, the four-door hatchback makes a nice runabout for urban and suburban driving. With all the additional componentry, weight comes in at 3,616 pounds.

Despite its heft, the A3 e-tron is pleasant and involving to drive. The feisty turbocharged 1.4-liter engine and electric motor combine for 204 hp. Zero to 60 mph is accomplished in 7.6 seconds, and 130 mph is the top speed. The six-speed dual-clutch automatic behaved perfectly.

To extend the involvement, four driving modes are selected with a dashboard button. EV mode was



the obvious choice while still in Palo Alto, and it returned excellent performance. But something perplexing happened when we floored the accelerator on a freeway ramp, expecting to feel the electric motor's rich torque and approach the claimed 80 mph top speed under electric power. Oddly, the system switched to Hold Battery, awakening the spirited 1.4-liter engine to lend assistance and prevent rapid discharge of the cells. It was, as they like to say in Silicon Valley, disruptive. We should have moved the shifter into Sport mode to take advantage of all available power.

On a coastal drive, the Hybrid

THE SPECS

ON SALE: Now BASE PRICE: \$38,825 ENGINE:

1.4L turbocharged DOHC 16-valve I-4/150 hp @ 5,000 rpm, 184 lb-ft @ 1,600-3,500 rpm; electric motor/102 hp, 243 lb-ft; 204 hp (combined)

TRANSMISSION:

6-speed dual-clutch automatic

LAYOUT:

4-door, 5-passenger, front-engine, FWD hatchback

EPA MILEAGE:

83 mpge (combined) (est) L x W x H:

169.8 x 77.4 x 56.1 in

WHEELBASE: 103.5 in WEIGHT: 3,616 lb 0-60 MPH: 7.6 sec TOP SPEED:

130 mph

setting was just right. And when we later found ourselves in stop-and-go freeway traffic, Charge Battery was the choice.

Apart from the Hold Battery incursion, the A3 e-tron is as suave as a Stanford University frat boy who's buying everybody milkshakes at Palo Alto Creamery. It comes with a Level 2 charger to replenish the cells in as little as 2 hours, 15 minutes. Audi partnered with Bosch to install charging units in buyers' garages, and home solar provider SunPower will install panels to supply current. Nearly every Audi dealer has geared up to sell and service the A3 e-tron and future e-tron models. This includes installation of charge ports at each dealership.

And what would an EV be without a smartphone app? Audi's shows the usual features: charging schedule and status, trip data, and

the car's location. Preconditioning the interior climate is also possible.

Available features include LED headlamps, a 14-speaker Bang & Olufsen sound system, and a suite of driver assistance measures such as lane keeping, pre-collision braking, and adaptive cruise control with stop-and-go capability. The test car had voice-activated navigation, which worked well for one driver but evidently needed a stronger sarcasm detector for the other.

Overall, the A3 e-tron is a very likable car for its subdued styling, high level of utility, and excellent efficiency. No claims of performance leadership are made, just that it's the Audi of plug-ins. That should be good enough for anyone who dislikes kale and prefers making a discriminating Audi statement instead of a geeky one.







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By Georg Kacher | Photography by Charlie Magee

TURBO STEP





lt's

<u>LÖWENSTEIN, GERMANY</u>

not even 9 a.m., and we already have our first shouting match. Faint growls start down in the valley and then can be heard growing louder through the esses up the hill, the stereophonic sonata building to a crescendo as the two German baritones appear over the brow-and abruptly end their duet just before the pavement expires where a new bridge is being built. The street music composed by the 2017 Mercedes-AMG C63 S Coupe sounds so familiar and yet somewhat different, like the voice of your son after puberty. The 2017 Porsche 911 Carrera S still plays a version of that catchy tune only flat-six engines raised in Weissach can intonate, though the engine's character has evolved during the half century after its creation from a hoarse, rev-hungry purebred into a well-mannered and remarkably refined jack-of-all-trades.

The differences between the C63 S Coupe and the 911 Carrera S that we're hustling through the Löwenstein hills couldn't be more profound. The most extreme contrasts include the position of the engine, the number of cylinders and their displacement, and the type of transmission. And, of course, the price. You'll pony up substantially less at the Mercedes dealer, but does the Porsche premium also buy you a more rewarding drive? Let's find out.

Not long ago, these two amazing tarmac-peelers were powered by naturally aspirated engines. But increasingly stringent regulations for air emissions have led to widespread adoption of turbocharging, which promises lower emissions from a smaller-displacement engine when the turbocharger is off boost combined with oodles of power when the turbo spins up to speed and pumps more fuel and air into the cylinders. AMG bid farewell to its old-school V-8 for the 2016 model year, and although Porsche still builds free-breathing GT3/RS models and will in March launch another in the form of the 911R at this year's Geneva auto show, the base-model 911 has gone turbo. And once you've gone turbo, you aren't going back.



The 911 Carrera S and AMG C63 S both impress with their speed. But the 911 is a street racer kitted out with modern amenities, and the AMG is a family car on steroids.



The C63 S Coupe is still packing eight-cylinder heat, and despite being a twin-turbo 4.0-liter V-8 with 503 horse-power and 516 lb-ft of torque, it's still a dedicated gruntmaster with plenty of power down low in the rpm range that has an unmistakable timbre. The new 911 S' 3.0-liter flat-six also has been fitted with two turbochargers, and although it has gained only a modest 20 horses to 420 horsepower in all, the torque peak is notably higher at 368 lb-ft, and the plateau is much broader, virtually flat from 1,700 to 5,000 rpm.

The two-door C63 is a sedan-coupe hybrid, a stealth car in the morning rush hour yet an extrovert show stealer at night thanks to its flamboyant bodywork and the XXX-rated soundtrack from the engine exhaust. It's roomy and practical, with usable rear seats and a large trunk, and it epitomizes all the attractions (and some of the flaws) of a front-engine, rearwheel-drive automobile. Instead of a family car on steroids like the AMG, the turbocharged Carrera is instead a street racer kitted out with modern conveniences (although perhaps the most

homogeneous 911 ever). Given its substantial horsepower and torque advantages, why doesn't the AMG post quicker stopwatch times than the 911? Primarily because it lugs almost 600 more pounds, and it doesn't have the 911's rearward weight distribution to enhance traction. Nevertheless, the Carrera S needs its dual-clutch PDK transmission, launch control, and a racy Sport Chrono chassis setup to keep up with the super C.

Many modern sports cars try to be everybody's darling. They want to be track tools, airport shuttles, fast-lane residents,

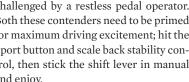
Even with nearly 600 more pounds than the 911, the AMG is sometimes more fun. The Porsche needs more space to shine. and rolling investments all in one. Take the Carrera S, for example. In Sport Plus (aka riot mode), it behaves like a hooligan on probation. Let it do its own thing in Drive, though, and the driving experience drops to the bottom of the excitement index. The car's dual-clutch transmission automatically selects the tallest gear for fuel efficiency, and initial throttle response borders on dopey, so the car is transformed from an aggressive disturber of the peace into hush-quiet whisper liner. The C63 doesn't hold back to quite the same extent when it's in automatic mode, yet it also promotes low-emissions fuel efficiency unless

challenged by a restless pedal operator. Both these contenders need to be primed for maximum driving excitement; hit the Sport button and scale back stability control, then stick the shift lever in manual and enjoy.

Given its nose-heavy demeanor, wide rear track, and extra kinetic energy, the C63 S is more entertaining-and sometimes frustrating-to drive on wide sweepers and tight switchbacks than the 911. Laying down all that raw muscle can be a challenge for not only the suspension and tires but also the person at the wheel. With stability control engaged, a C300 is about as much fun. But with stability control in its more permissive mode, the AMG coupe swaps a hoodie and jogging pants for a muscle shirt and boxing gloves. And when the yellow warning symbol "ESP OFF" catches your eye, things start to get hairy.

In comparison, the Porsche's dynamics should be hampered by an even more ill-fated weight distribution, yet it hangs on in the corners with more skill and attacks the road with greater determination. That's the good news. The bad news is the 911 needs a bigger stage to excel. After all, it takes slightly longer to cross that transition zone as the car's dynamic balance changes from understeer to neutral to oversteer, and this becomes less tricky as the road grows more open. The newly added ESP Sport Handling mode blends reason and rowdiness while maintaining a reassuring safety net.

So the Porsche 911 and the Mercedes AMG coupe have their strengths and weaknesses in the power and handling departments, but when it comes to switching gears, which is more rewarding: Porsche's PDK or AMG's Speedshift? The seven-speed dual-clutch PDK transmission scores with its rapid response to throttle-on/throttle-off inputs and an improved start-stop system that cuts the engine earlier on an approach to an intersection. It also allows the car to coast in fuel-saving neutral when the driver steps off the gas. The AMG's seven-speed Speedshift automatic is marginally less efficient yet a slightly more emotional proposition. It changes ratios a bit more smoothly when in a relaxed driving program, while its super-quick clutch pack features an upshift overboost to neutralize that momentarily interrupted forward thrust between gears when you're in aggressive mode.



THE SPECS

2017 Mercedes-AMG C63 S Coupe

ON SALE:

Summer

BASE PRICE: \$82,000 (est)

ENGINE:

4.0L twin-turbo DOHC 32-valve V-8/ 503 hp @ 5,500-6,250 rpm, 516 lb-ft @ 1.750-4.500 rpm

TRANSMISSION:

7-speed automatic

LAYOUT:

2-door, 4-passenger, front-engine, RWD coupe

FUEL MILEAGE:

18/25 mpg (city/hwy) (est)

LxWxH:

184.4 x 71.2 x 55.3 in

WHEELBASE:

111.8 in WEIGHT:

3.803 lb

0-60 MPH:

3.8 sec

TOP SPEED:

180 mph

Porsche 911 Carrera S

ON SALE:

March

BASE PRICE: \$107,595 (with PDK)

ENGINE:

3.0L twin-turbo DOHC 24-valve flat-6/420 hp @ 6,500 rpm, 368 lb-ft @ 1,700-5,000 rpm

TRANSMISSION:

7-speed dual-clutch automatic

LAYOUT:

2-door, 4-passenger, rear-engine, RWD coupe

FUEL MILEAGE:

N/A

LxWxH:

177.1 x 71.2 x 51.0 in

WHEELBASE:

96.5 in

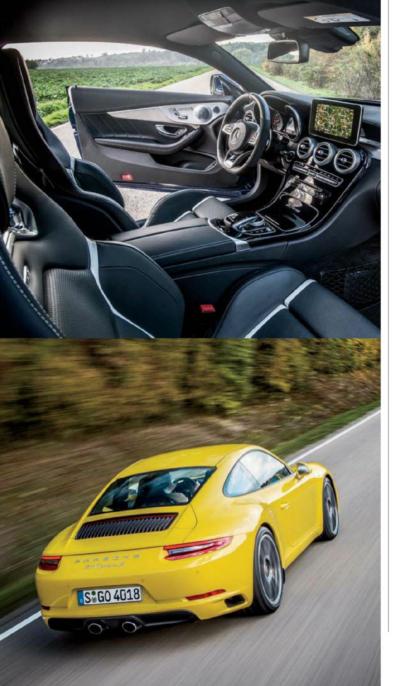
WEIGHT:

3,219 lb

0-60 MPH:

3.7 sec TOP SPEED:

190 mph





Pricewise, the AMG GT would be a better match for the Carrera S, but the C63 S Coupe is both the sharper backroad weapon and the more sensible buy. The Mercedes is compromised to an extent by its higher center of gravity, although it looks lower and leaner. All of its sheetmetal elements except the roof and the door skins have been restyled, so the front and rear ends look notably meaner now, the longer nose sharpens the proportions, and all those flics, splitters, and diffusers shout catch me if you can. The bad-boy makeup is complemented by bigger 255/35R-19 and 285/30R-20 tires. And thanks to its powertrain's awesome midrange thrust, this Mercedes is a truly amazing autobahn express.

The new Porsche 911 Carrera impresses with the exemplary seamlessness of its performance. It's a different car than before but no less capable. It's more relaxed and very well tied down yet expressive, precise, urgent, and sublimely balanced at the same time. On dry turf and warm tires, the Porsche processes tempi and radii with a rare degree of involvement. The cornering grip as you turn in can be truly riveting, straightline stability at more than 130 mph is no longer the stuff heart attacks are made of, and the extra-cost carbon ceramic brakes are first-rate mind-bogglers. Downsides of the new Porsche? On rough roads, the 911's ride quality often deteriorates from ho-hum to unsettling,

and the body motion that ensues can deflect your flight path. Meanwhile, the expensive extras such as rear-wheel steering or the manually activated antiroll bars are no more relevant to every-day driving than the stiff-legged sports suspension.

So what unites this Mercedes-AMG C63 Coupe and Porsche 911 Carrera S? Aside from the fact that both models go like stink, not much. The two-door C63 AMG S is the sportiest C-Class ever, without question, while the new Carrera S is the most sensible and accessible 911 we've driven in a long time. If price and emotion are your deciders, take the blue car. If prestige, panache, and perfection do the trick, go for yellow.



By Arthur St. Antoine | Photography by William Walker

AN ACTION-PACKED TOUR THROUGH UTAH'S BREATHTAKING BIG FIVE IN THE NEW 2016 TOYOTA TACOMA TRD OFF-ROAD PICKUP

Parks and At



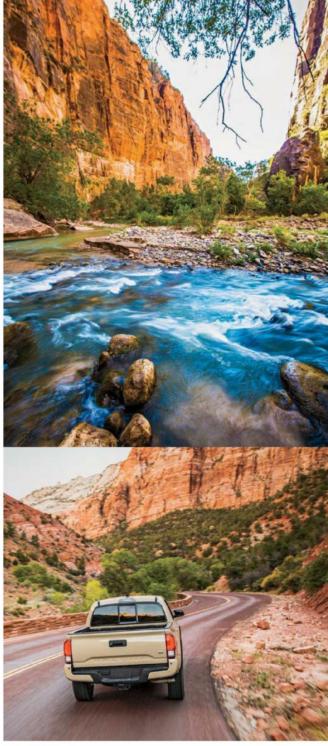


Ialways

In Zion Canyon, two climbers prepare to go vertical. St. Antoine, left on opposite page, and guide Jim Frandsen scrutinize the jagged

assumed the Osmond family owned Utah, but it turns out the state mostly belongs to a headliner even better-known for garish pants: Uncle Sam. Roughly two-thirds of Utah is federally held; the state gave up millions of acres more than a century ago in order to join the Union (though it expected eventually to get them back). Just who rightfully owns Utah's land today is a fiercely debated issue, and it's easy to see why both sides are so testy. Utah was probably the original inspiration for the word "awesome."

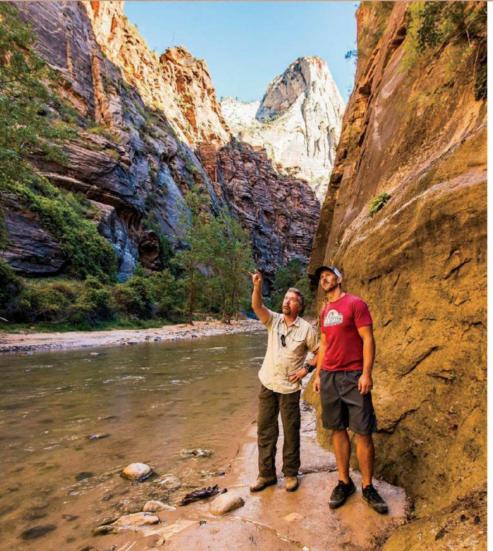
The Beehive State is big (at 85,000 square miles, it's America's 13th largest) and roomy (only 33rd in population). The rugged, mountainous terrain inspired one tourism board slogan: "Utah: Life Elevated." The Osmonds and millions of similarly devoted citizens inspired another motto you'll just as often see in local T-shirt shops: "Utah: 73% Mormon, 100% Sexy." But the main attraction-and what brought our video crew and me to tiny St. George in the state's southwest corner-is the Big Five. Utah boasts a quintet of huge national parks, each with its own distinct flavor, each unlike almost anyplace else on Earth. It's my plan to explore every one of them, on-road and off, up close and hands on. To do so, I've brought along a rig tailor-made for the job: Toyota's all-new 2016 Tacoma pickup outfitted by Toyota Racing Development



(TRD) in burly Off-Road trim.

First up: Zion, Utah's oldest national park—established in 1909—and by far its most popular. It doesn't take long to realize why. The name "Zion" means "heavenly city," and as I aim the Tacoma into the first few miles of park, it's like entering a natural cathedral: serrated peaks soaring straight up from the roadside, flying buttresses of red sandstone. I'm pretty sure I hear choir music too. As I park in Zion Canyon, in the distance I can see climbers halfway up a sheer rock face. Then I meet two more about to head up. "We're gonna camp halfway," one tells





me. "You just secure your tent to the wall, and you're all set. I sleep great up there." And I used to worry about falling out of the top bunk.

For my hike into the canyon, I join Jim Frandsen, general manager of Zion Outfitters and a local who knows the park from top to bottom. "This is what we call a 'weeping wall,' he says as we halt in front of a dribbling rock face. "The water coming out is more than 1,200 years old. It's absorbed by the porous sandstone above, then very slowly, over centuries, it filters down until it reaches this impermeable layer of shale, which forces the water out sideways." It occurs to me to hop over for a sip, but who knows who was doing what in that water way back when.

The pathway disappears farther on as the canyon walls constrict into the Zion Narrows. From here on, the only route is right through the shallow Virgin River; a walking stick and proper water shoes (equipment that Jim rents) are required. Also essential is keeping a close eye on the weather. Just before my visit, a party of hikers was killed when a flash flood swept through a slot canyon not far from here.

With the afternoon light fading, I have to leave this beauteous walled wonderland to move on to my next park: Bryce Canyon. The tour buses make the trip by highway, but in my extra-capable Tacoma I opt for the far more interesting, unpaved





THE STAGGERING BEAUTY OF ZION SET THE BAR INCREDIBLY HIGH ... BUT IN MANY WAYS UTAH JUST KEPT GETTING BETTER AND BETTER.

Cottonwood Canyon Road teems with potential pitfalls, but the payoff the next morning is the unrivaled tableau of hoodoos in Bryce Canyon, below and opposite page.

Cottonwood Canyon Road—even though a sign at its entrance warns: "Not currently recommended for travel." As night falls, I regularly come across large rocks and washed-out stretches of the trail, but they're no match for the Tacoma's four-wheel drive and 9.4 inches of ground clearance. Still, it's a long haul, and with the sun gone, I can't see more than a few feet off the road. Watch out for deer, watch out for gaps in the trail, but keep up a decent pace. The pizza joint somewhere up ahead is the only eatery in town. And it closes in 45 minutes.

Arriving before dawn at Bryce Canyon National Park, just 50 miles or so northeast of Zion, our team is treated to a sight for the memory books: sunrise over the hoodoos. Tall, rocket-like spires formed by eons of erosion, hoodoos can be found in many other countries. But Bryce has the largest collection of them in the world.

Designated a national park in 1928, Bryce consists of 56 square miles of staggering geology. You can hike it, ride a horse through parts of it, or simply stand at the edge of an 800-foot abyss and drink in the alien world below. Because Bryce is far less visited than Zion, you're much more likely to have a perch of rock all to yourself.

Call time the next day: 3:30 a.m. Ugh. For more than two hours, our team winds through a tight, twisting two-lane trail in the pitch dark. Sometime during the night, we cross into Capitol Reef National Park. Up, down, over a river wash, past what looks like a bevy of 50 deer just ready to dart out in front of us, and onward we go. Then, as we round a turn, the horizon ahead brightens with a faint whisper of orange. Above it the slenderest crescent of a moon rises. It's like an old science-fiction painting of a distant planet.

We reach our destination with less than 20 minutes to spare—just enough time to set up our cameras. Standing apart on the sandy desert floor, a massive, sail-like triangle of rock soars before us. It's flat and featureless in this light, but then, quite suddenly, the dawn breaks over the horizon—and the so-named Temple of the Sun alights in a brilliant orange-red glow. Wow. I turn toward my producer, give him a thumbs-up. The early call was very, very worth it.

Prior to coming here I'd never heard of





Capitol Reef. And, in fact, this 100-milelong, narrow wrinkle of 65-million-yearold ridges and buttes only became a national park in 1971. But let me tell you: The place is epic. Forget the tour buses and crowds at Zion. Out here on these unpaved trails, your only fellow traveler is likely to be a golden eagle or a bighorn sheep. To escape like this, I'd get up at zero dark thirty anytime.

The next day, just outside the lively adventure town of Moab in eastern Utah, I reach Arches National Park. Within its 119 square miles, Arches boasts some of the most bizarre and head-scratching natural formations on the planet. The deeper I get into Arches, the more amazing rock formations I come upon. World-famous Balanced Rock is just that: a huge, 3,500-ton boulder perched impossibly atop a narrow spire. Will it topple over? A smaller boulder next to it did just that in the 1940s. To me, Balanced Rock looks like it's ready to fall the moment some nearby kid yells too loudly.

After making the steep hike up to Utah's most famous site, what suddenly appears before me boggles my mind. Yes, I've seen the so-called Delicate Arch in pictures, and it's on Utah license plates too, but nothing can prepare you for seeing this 65-foot-tall petrified doughnut jutting up on the edge of a sandstone bowl with the La Sal Mountains off in the distance. As the sun begins to lower in the afternoon sky, Delicate Arch becomes more and more alive, the sandstone reddening against the blue sky. Utah continues to surprise and amaze me.

As I approach the last destination on my five-park tour, I'm predicting this is going to be a disappointment after everything I've seen and done so far. But as I enter Canyonlands National Park in southeastern Utah, not far from Arches and Moab, I begin to think: Maybe I ain't seen nothin' yet. Picture the Grand Canyon. Now remove the people, the tour buses, the gift shops, and the sightseertopped donkeys lumbering down the trail. That's Canyonlands. Enshrined as a national park in 1964 and encompassing a whopping 527 square miles, Canyonlands is Disneyland for off-road adventurers. Within its borders curl both the Colorado and Green rivers. Huge sandstone mesas overlook winding desert canyons that spill into forever. Signs of civilization? Forget it. In fact, audio studies by the National Park Service suggest Canyon-



lands is one of the quietest places in North America.

The drive in is a doozy. I'm working my way down the White Rim, diving through tight switchbacks that fall at least a thousand feet to the valley floor. Once or twice I pass another 4x4 going in the other direction, but otherwise ... nothing. I've got Disneyl— er, Canyonlands all to myself.

With the sun diving for the horizon, it's time to set up tonight's camp. And here's a spot right out of a Hollywood movie: an empty plateau—no one around for miles and miles—overlooking a monumental valley, the crescent moon rising in the dusky sky as if to tie up this post-

card-perfect view with a shiny bow. The staggering beauty of Zion set the bar incredibly high for the parks to follow, but in many ways Utah just kept getting better and better and better. This nearly private macrocosm called Canyonlands may well be my favorite park of them all. For a guy accustomed to the noise and traffic and crowds of Los Angeles, Canyonlands is the ultimate reboot. You get out here, spend some time on your own in a landscape utterly unique and inspiring, and all that muck from your normal daily grind simply washes away.

Cleaning the muck off the Tacoma is gonna be a lot more work.









adventure begins with a harebrained idea. Mine was to jump a \$47,000 Honda crossover.

The notion surfaced when a Honda rep bragged how the Pilot, a glorified minivan without sliding doors, could handle the Rubicon Trail. I've banged over the 20-mile-long High Sierra spine-scrambler and assured him, no, it could not. In fairness, the conversation took place as we trundled a Pilot up a steep dirt mound in a demonstration of the crossover's Intelligent Traction Management system. I couldn't imagine a Ford Windstar clearing the grade.

With traction control set to Sand, we crested the rise as Honda's man told me some of the development work on the multiterrain system occurred in Dubai. I eyed the hump and imagined taking it much, much faster. Had anyone tried to jump a Pilot, Baja style? Now that might prove how tough the crossover really is.

Weeks later, Honda delivered a Pilot Elite, having replaced the 20-inch citified rubber with 18-inch Pirelli Scorpions, a tire with more allterrain bite. I headed west from New York toward the wilds of Pennsylvania and the Poconos.

The Pilot got its first taste of blackveined dirt in the former coal fields of the Anthracite Outdoor Adventure Area. The pay-to-play site, 6,000 acres in Coal Township, is some 60 miles north of Hershev. The Keystone State is laced with dedicated off-road sites, some operated with official hours and welcome centers, such as Anthracite, and others by seasonal permits. Anthracite opened in 2014 and has a spiderweb of trails that range from mud bogging to rock crawling. It is economical too: An annual pass starts at \$120.

In the quest to see if Honda can hang a macho mustache on the Pilotit shares its platform with the Odyssey minivan and the Accord-some extra fun came along too. The company



makes everything from lawn mower (including the world's fastest, a 109-hp monster capable of 116 mph) to weed trimmers. So a Rancher ATV and a side-by-side Pioneer UTV joined the fray. While Honda builds neither expressly to jump, I was reasonably sure they could—though probably not by me.

I needed seasoned operators in the form of genuine off-roading Pennsylvanians Dale Esbin and his 15-year-old son, Jake. Dale is an old-school dirt hound and all-around outdoorsman, and Jake possesses natural talent, having ridden four-wheelers since he was 5. The Esbins would be good judges of the Honda's outdoor, mud-splashing, boulder-grinding worthiness.

They had their doubts about the Pilot After all, it had shiny green metallic paint, a standard panoramic glass roof, second-row heated captain's chairs, and room for seven. The Pilot's subtext is almost-luxury, the owner a comfortable dad whose likeliest foray off-piste is into the bunker at his favorite nine.

Before we found out, Dave Porzi,
Anthracite's director of operations, led
us on a recce around the property. "I
grew up riding around these mountains,
but it got to the point where I wouldn't
come out here anymore, with all the
shooting and boozing and druggin'
going on," he said. "But the county
commissioners had the idea of
turning this former coal land into
an economic engine for the area,



where we could sponsor responsible recreation and conservation."

Mining has gone on here since at least the 1930s. The county hauled away heaps of tires and trash and filled in open pits and mine shafts. "The land was abused for so many years with illegal activity," he explained, "we were told that anything we do would be an improvement."

I expected black, dead land filled with tailings but instead found lush hills and thick copses of trees turning gold and red, with large birds cartwheeling overhead. Porzi nodded at a massive black pipe sticking out of the ground, indicating a bat cave deep below. "If you knew what was underneath us, you probably wouldn't drive over it," he said with a laugh. "There are 800-foot shafts which lead to gangways that lead to even deeper shafts. They open up sometimes. …"

The guide and I were in his sideby-side UTV as Dale Esbin followed in the Pilot, avoiding deep, black mud pits lacing the roads. That wouldn't do at all, so we moved on, me in the side-by-side. Utility task vehicles, or UTVs, handily outsell motorcycles these days. The Pioneer has a 475cc, four-stroke engine and a five-speed dual-clutch transmission operated by paddles. Its short 102.5inch wheelbase allows you to turn in early, simultaneously downshifting and allowing the body to pivot around obstacles. Good fun, as it weighs a mere 1,010 pounds. (Prices start around \$9,000.) Nonetheless, compare it to a sport UTV such as the turbocharged Polaris RZR XP 4-a 144-hp mini-Baja-buggy badass-and the Pioneer looks as milquetoast as the Pilot.

The Pioneer was soon on two wheels—the two on the driver's side. Turns out the rollbar is





necessary, as it is easy to tip the Pioneer. Dale jumped the weighty FourTrax Rancher ATV, a feat I would not have attempted, as the Pilot made easy work of the terrain. We avoided big boulder piles and too-narrow trails, looking for fast pebble-coated sweepers and speedy paths with midsized rocks. The Pilot's front-strut, rear coiloverdamper suspension and AWD torque vectoring made the 4,317-pound CUV look positively lithe. I rammed it over rocks and coaxed it into sideways semi-slides.

The i-VTM4 system distributes torque between front and rear axles and allows a surprising amount of slip when set to Mud or Sand. The Pilot works much like the Range Rover Evoque, forgoing a real off-roader's twin differentials for a traction-based system that modulates throttle mapping, reartorque bias, and slip.

Go ahead, crash the Pilot through those deep, black mud pits at 15 mph-or even more than 35 mph. Damn the rocks and plastic fascia. It makes a great splash and gets anybody riding right behind youparticularly if that person's in an open-air vehicle such as the Pioneer and Rancher-tremendously muddy.

The Pilot was tough. It actually liked the dirt and the rocks. In fact, it was more comported than many a burly off-roader or pickup truck I've driven in similar situations.

The jump, however, looked dubious. I couldn't find a scoopedout hunk of earth, like a cauldron, to drop into and shoot back up and out of. I settled on a modest berm and a 40-mph approach, I cleared rocks from the path, checked my seat belt, and hoped for the best.

You get a particular feeling when you're in the air, when you know all four wheels are off. In this instance. it was interrupted abruptly by a loud concussive bang-a pyrotechnic in the seat belt-and a terrible cinching around my abdomen. Then I landed. The landing wasn't bad, but the Pilot automatically dialed emergency services as a voice from a cockpit speaker said, "Crash detected."



2016 Honda Pilot Elite

THE SPECS

ON SALE:

Now

BASE PRICE:

\$47,300

ENGINE: 3.5L SOHC 24-valve V-6/ 280 hp @ 6,000 rpm,

262 lb-ft @ 4,700 rpm TRANSMISSION:

9-speed automatic LAYOUT: 4-door,

7-passenger, frontengine, AWD CUV

EPA MILEAGE:

19/26 mpg (city/hwy) LxWxH:

194.5 x 78.6 x 69.8 in

WHEELBASE:

111.0 in

WEIGHT:

4,317 lb

0-60 MPH:

TOP SPEED:

N/A

No, the Pilot doesn't really like to jump. Honda engineers later told me they're not sure what happened: Vehicle sensors knew all four wheels were off the ground, and perhaps there was enough roll to indicate a flip was imminent, triggering the explosive seat belt. Whatever the case, neither the airbags nor the seat belt functioned afterward.

Was it spectacular? Not so much. It wasn't high-a foot, maybe two, skimming over the earth. But the jump was a goodly distance, perhaps 20 feet, long enough for the car's brain to think something was wrong before the wheels touched down. I drove slowly to where the Esbins waited, my gut aching and gunpowder polluting my nose. Dale asked if I would try again.

"No," I conceded. "Once was enough." It turns out you can jump a Honda Pilot. But it is a certifiably harebrained idea.

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The main

talking point I get before testing Audi's 2016 R8 LMS race car is that it's been developed from the ground up in concert with the roadgoing R8 supercar. So I'm not expecting insanity, just a gutted version of the production model with lots of safety gear and some extra performance goodies.

Shortly after passing Road Atlanta's front gate, though, I hear downshifts that crackle like high-velocity rifle shots. A sleek-butchunky silver machine flashes into view between stands of pine trees on the downhill stretch toward Turn 12. It powers onto the front straight, leaving the wail of what sounds like a full-tilt V-10 race engine in its wake. And I suddenly understand why I was ordered to bring a fire suit and Nomex undies.

"This is a proper race car, not just a converted street car," Jürgen Zürn, Audi Sport customer racing's senior manager, tells me after I reach the paddock.

The R8 LMS is among the first of a new batch of cars several manufacturers are building to new global GT3 specifications that, hopefully, will inspire a renaissance in production-based sports-car racing. Which is why the pits are full of not only Audi engineers and mechanics but also about a dozen drivers who competed the previous day in the IMSA season-ending Petit Le Mans endurance race. Each of them runs a couple of laps in the new car to evaluate it for potential purchase for 2016, and reviews are glowing.

"This thing is mind-blowing," says Guy Cosmo, who raced the previous R8 at Petit. "It feels more like a prototype than a GT car. The balance is inspiring, the braking is phenomenal, and the electronics are really well sorted. Honestly, this is what we've been missing with [GT3] cars for all these years."

By Preston Lerner | Photography courtesy of Audi



Audi aims to step up GT3 assault with second-gen R8 LMS racer

NO.2 WITH A BULLET



THE GT3 STANDARD

Sports-car racing has been an unholy mess since, well, just about forever. The FIA unveiled GT3 regulations a decade ago to create an affordable class for production-based cars that weren't as outrageously complicated and appallingly expensive as the purpose-built thoroughbreds racing in GT1, GT2, and what's now known as GTLM. For a variety of reasons that make sense (or matter) only to GT racing insiders, the class wasn't adopted universally. For example, GT3 cars aren't eligible to race at Le Mans.

In 2016, however, new regulations will go into effect on a worldwide basis, and GT3-spec cars are expected to form the backbone of the two major professional road-racing series here in the Statesthe new LMS needs 100 fewer horses to achieve the same speed as the old one.

The engine is straight out of the street car, which is why Audi provides a warranty for 20,000 kilometers (12,427 miles) between rebuilds. The only differences: upgraded crankshaft bearings, a deleted flapper in the emission-control system, and an excised shaft for all-wheel drive, since the race car is rear-drive only. In production form, the 5.2-liter V-10 makes 540 horsepower, or 610 horsepower in the Plus version. For racing, various series require engine air restrictors, reducing output closer to 500 hp.

The gearbox is a custom six-speed electrohydraulic sequential that requires the driver to operate the steering wheel-mounted clutch only when engaging first or reverse. Unlike the street car, the LMS is equipped with a race-spec Bosch ECU that dials out the electronic kludgery found in the first-gen LMS and underpins the magically seamless transmission, traction control, and antilock braking. Besides translating into radically improved performance, this also creates a package that's more palatable to well-heeled customers.

Make no mistake, so-called "gentlemen drivers" pay many, and in some cases most, of the bills in sports-car racing. But they're not always talented enough to control cars prone to vices such as snap oversteer and brake lockup.

"If they're not having fun, they're not going to race," Liebchen says. "So we wanted a car that was easier for gentlemen drivers to drive, and that meant improved traction control and ABS."

THE RACE-CAR CHASSIS IS BUILT ON THE PRODUCTION CAR ASSEMBLY LINE IN HEILBRONN, USING STREET-CAR JIGS, BEFORE BEING SHIPPED TO A RACE SHOP WHERE THE ROLLCAGE AND SPECIAL MOUNTING POINTS ARE INSTALLED.

IMSA's WeatherTech (née Tudor) SportsCar Championship and SCCA's Pirelli World Challenge. So manufacturers ranging from Porsche to Ferrari are scrambling to build cars for paying customers for the upcoming season.

When Audi got into the customer racing business back in 2009, the R8 road car already existed, so the first GT3-spec LMS was something of a compromise. This time around, says Romolo Liebchen, head of Audi Sport customer racing, "For the road car and race car, we had the same goal of decreasing weight and increasing stiffness." So the race-car chassis is built on the production car assembly line in Heilbronn, using street-car jigs, before being shipped to a race shop where the rollcage and special mounting points are installed.

Suspension wishbones and pickup points are unique to the LMS. (Because the pushrods are mounted to the base of the dampers, ride height is adjusted without affecting spring pre-load or toe and camber settings.) But the street and race cars share a shape that benefits ontrack performance.

"The designers understood much better the aerodynamic needs of the race car," Liebchen explains. The lowdrag carbon-fiber body is so slick that



Although the Audi R8 LMS race car starts on the same assembly line as the street car, the interior, opposite page, is all business. Audi's customer racing boss watches the

action on track.

THE SPECS

ON SALE: Now BASE PRICE:

\$491,650 **ENGINE**:

5.2L DOHC 40-valve V-10/495 hp (est, with mandated air restrictor), 585 hp (unrestricted)

TRANSMISSION:

6-speed sequential manual

LAYOUT:

2-door, 1-passenger, mid-engine, RWD coupe

L x W x H: 180.4 x 78.6 x 46.1 in

WEIGHT: 2,701lb

(FIA homologation)

0-60 MPH:

3.0 sec (est)
TOP SPEED:

183 mph



LAUNCH WITH CONFIDENCE

The drivers who've tested the car tell me it's remarkably easy to drive, so I feel relatively relaxed when I squirm inside the LMS. In line with the keep-the-customer-happy approach, the cockpit is an ergonomic masterpiece. Forward visibility is panoramic, and though the seat is fixed, the steering wheel and pedals are adjustable.

The car drops from air jacks, I punch the start button, and the engine barks to life. I pull back on the clutch paddle and select first gear. Anti-stall technology removes all of the drama, and the car trundles out of the pits like a Coupe de Ville oozing away from a stoplight. By the time I reach the back straight, I'm already confident enough to lay into the throttle.

Predictably, I'm pinned back in my seat. Between the prodigious torque and

virtually instantaneous upshifts, the car seems to gain speed exponentially, and I keep getting caught by surprise as the rev-counter light winks red, signaling 8,600 rpm. On the downhill rush to Turn 10A, doing about 165 mph, I nail the brakes. Pedal pressure is high, which is nice because the protocol is to get into the ABS early and often and let the computer take care of stopping the car.

The steering is surprisingly light, though it would likely load up big time if I carried anything close to a race pace into high-speed corners where the front splitter, integral diffuser, and massive rear wing generate serious downforce. I also weenie out of using the technique recommended by Audi factory driver Christopher Haase, who says he simply mats the throttle as soon as it's time to put the power down and relies on the traction control—12 settings, adjusted via steering-wheel dial—to sort things out.

SOURCE OF PRIDE

Audi, which already supports 130 existing GT3 cars, plans to build 45 newbies by March. Five are committed to the States, where the price is \$491,650. Not cheap, obviously, but the car comes with trackside support—a level of assistance provided only by Audi and Porsche—and a reputation for moose-like robustness.

The car driven at Road Atlanta already completed 24-hour races at the Nürburgring Nordschleife and at Spa, as well as two shorter enduros at the 'ring. Yet several drivers turned laps faster than practice times for Petit Le Mans. No wonder Brad Kettler, director of technical operations for the American Audi Sport customer racing program, beams at the end of the day.

"This is a target-rich environment, and there are a lot of people on the fence [about which GT3 car to buy]," he says. "But you can tell just looking at the LMS: It's a bullet."



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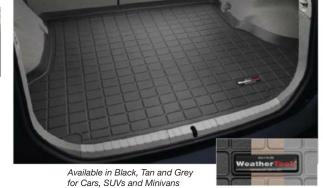


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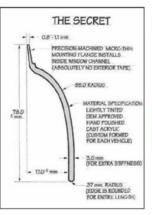
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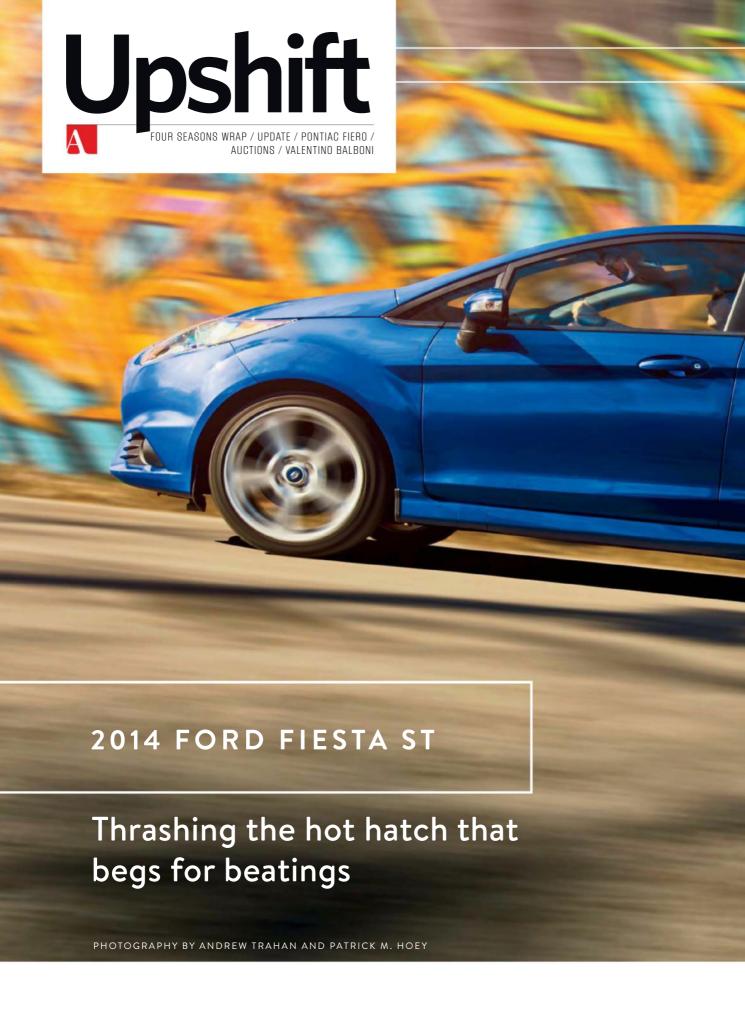
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e're hooligans at heart.
You probably are too.
Think of the feeling you
get in your stomach when
you're bombing down
your favorite back road or slicing
through traffic on the freeway or doing
a burnout in a parking lot. Cars that
encourage this sort of behavior put a
smile on our face, and when we first
drove the Ford Fiesta ST we grinned
from ear to ear. Its ever-eager
personality hooked us immediately,
and we knew we needed a Four

Seasons test to spend more time with

this hot-hatch firecracker.

Upshift

To create the ST. Ford fitted its prosaic, \$15,000 Fiesta subcompact with a 197-hp, 1.6-liter turbocharged four-cylinder, a fantastic six-speed manual transmission-the only transmission available, amen-and a taut, track-ready suspension, all as standard equipment. This Performance Blue car came with only two options: a \$795 navigation upgrade for the standard MyFord Touch infotainment system and \$1,995 heavily bolstered, heated Recaro front seats. All said, it stickered for just \$25,015. The performance and excitement you get for that pittance is absolutely astonishing.

"The ST is a hungry little speed gremlin always whispering for you to rev a little higher, brake a little later, and turn in a little harder," said daily news editor Eric Weiner after his first drive in the car. Daily news editor Jake Holmes wasted no time taking the ST to an SCCA autocross driving school. "The Fiesta ST is a nimble weapon on these figure eights and slalom courses," said Holmes. "It is incredibly well balanced, with sharp turn-in and tons of front-end grip."

Other staffers soon took the little Fiesta to more autocrosses and a

few open track days, heaping on praise and calling the car a "high-energy funster that encourages you to cut loose completely." Even when we pulled out of the paddock and onto public roads, the playful Ford Fiesta ST had us driving with abandon. "It's the kind of car that makes you feel like you're 16 years old again," contributor Marc Noordeloos said after jumping over railroad tracks

and pulling handbrake turns in



You won't find any dual clutches or paddle shifters here—a good old six-speed manual is the only transmission choice.



RUNNING COSTS

MILEAGE

21.436

WARRANTY

3-yr/36,000-mi bumper-to-bumper 5-yr/60,000-mi powertrain 5-yr rust perforation 5-vr/60.000-mi roadside assistance

SCHEDULED MAINTENANCE

7,022 mi: Oil change, oil filter replaced, \$46.17

18,761 mi: Oil change, oil filter replaced, brake inspection, \$77.36

WARRANTY REPAIRS

None

RECALLS

OUT-OF-POCKET

5.552 mi: Purchase, mount, and balance Bridgestone Potenza RE050A tires, \$764

5,684 mi: Repair bent front left wheel, \$135

7,022 mi: Replace bent left front, left rear, right rear wheels; replace two rear shock absorbers, \$1,926.62

9,157 mi: Purchase, mount, and balance Bridgestone Blizzak WS80 winter tires, \$591.24

19,153 mi: Purchase, paint, and install replacement rocker sill, \$683.31

19,290 mi: Replace cracked front windshield, \$345

FUEL CONSUMPTION

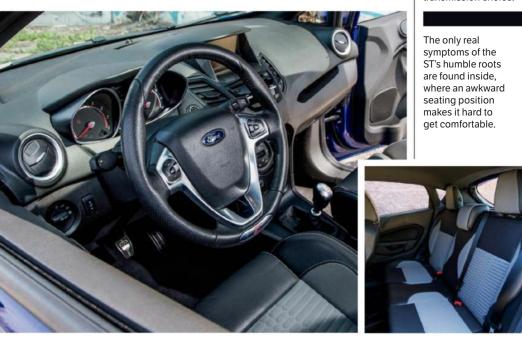
EPA city/highway/combined 29/40/33 mpg. Observed: **28.6 mpg**

COST PER MILE

(Fuel, service, winter tires): \$0.35 (\$0.75 including depreciation)

TRADE-IN VALUE

\$17100 *Fstimate based on information from Intellichoice.com



parking lots.



Good luck fitting this much junk in the Subaru BRZ's trunk—staff photographer Patrick M. Hoey managed to cram all of his equipment into the ST on a road trip through the Midwest.



some of the Fiesta ST's major flaws. Complaints cropped up about the cramped rear seats and the awkward driving position, and the poorly designed pedal box came under fire for making heel-and-toe shifting near impossible. The throttle is significantly farther back than the brake pedal, so we spent \$50 on a 3-D-printed throttle pedal spacer we found online. (It helped but didn't fix the problem.)

The spankings soon caught up

to the car, and we started feeling

vibrations at highway speeds and

hearing clunking noises from the

low-profile tires, a stiff chassis, and

roads bent three wheels and blew

out both rear suspension dampers,

reluctantly settled down and soon

realized that the sheer amount of

fun we'd been having blinded us to

rear suspension. The mix of

driving on Michigan's scarred

and we were out \$1,925. We

With the rear seats folded, there's only 25.4 cubic feet of cargo space—more than most sports cars, but hardly competitive among other subcompact hatchbacks—and we disliked the MyFord Touch infotainment screen, which has such a small display that you really should be stopped to safely use some of the tiny buttons. Voice commands make things easier

once underway, and all Fiestas now get Ford's new Sync 3 infotainment system, which should resolve many of our qualms.

And yet, we still had a glint in our eye for the ST. It was easy to forgive and forget these annoyances as soon as we downshifted to squirt through gaps in traffic or chucked the ST into a tight corner. Holmes noted, "The Fiesta ST always makes a bad first impression when I haven't driven it in a while. But after about two minutes of driving, I remember why I adore this car. It's so willing, so eager, so desperate to play hard."

The memories of bent wheels and blown shocks faded, and we got back to doing what both we

and the Fiesta ST do best: playing hard. With winter coming, we picked up a set of Bridgestone Blizzak tires from Tire Rack just before two editors took the Fiesta ST to an ice-racing event on a frozen lake in northern Michigan. Racing went off without a hitch, but when exiting the course, we ran over a snow-covered boulder that ripped off a side rocker. The cosmetic damage didn't stop senior editor Chris Nelson from taking the Fiesta to the Rally in the 100 Acre Wood in Salem, Missouri. There he met up with professional driver Andrew Comrie-Picard, who won the 2014 Rally America two-wheel-drive championship in his own modified Fiesta ST. The two tried their damnedest to push

PROS & CONS



- Fun, eager personality
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- More practical than any sports car



- Awkward driving position
- Bouncy ride
- Cramped interior

PRICES & EQUIPMENT

STANDARD EQUIPMENT

Automatic climate control; Sync w/MyFord Touch; HD radio; SiriusXM satellite radio w/trial subscription; keyless entry and ignition; aluminum sport pedals: rear spoiler; 17-inch aluminum wheels; sport suspension; leatherwrapped steering wheel and shift knob; tilt steering wheel: automatic halogen headlights; foglights; cloth-trimmed sport seats; interior ambient lighting; floormats; Sony audio system; cruise control; 60/40-split folding rear seats; hill-start assist



OUR OPTIONS

Recaro package (\$1,995), including heated Recaro front seats and heated exterior mirrors Navigation (\$795)





Upshift

FOUR SEASONS WRAP

Our stock Fiesta ST needed only upgraded wheels and tires, right, to conquer a winter rally stage alongside its rally-prepped twin, below.



the Ford beyond its breaking point, splashing through ice-covered creeks, jumping over cattle grates, and going flat out along rally-stage roads, but nothing broke the car. "An economical hatch shouldn't be good at everything, but not even imitating rally drivers shattered the ST," said Nelson, slightly disappointed.

We finished off our Four Seasons test with one final romp at—you guessed it—yet another autocross. And once again, the Fiesta made us smile in a way we'd never expect at this price point. It threaded through cones with the same unbridled energy we remembered from when we first fell in love with it.

Even after the worst whupping we've put on a long-term car in a long, long time, this Fiesta ST wanted to keep playing. We did too, and some editors even browsed local dealer listings for new Fiesta STs, desperate to continue the love affair even after the car left our Four Seasons fleet. We'll miss the way the Ford combines performance and practicality in an affordable package, how it turns every drive into something exciting and joyful. But we'll miss it most because it always encouraged our inner delinquent to come out and play.



RALLY ST: ANDREW TRAHAN

2014 FORD FIESTA ST

STAR RATING:



BASE PRICE:

\$22,225 **AS-TESTED PRICE:**

\$25,015

ENGINE:

1.6L turbo DOHC 16-valve I-4/197 hp @ 6,350 rpm, 202 lb-ft @ 4,200 rpm

TRANSMISSION: 6-speed manual

LAYOUT:

4-door, 5-passenger, front-engine, FWD hatchback

EPA MILEAGE:

26/35/29 mpg

(city/hwy/combined)

SUSPENSION F/R:

Strut-type, coil springs/ torsion beam, coil springs

BRAKES F/R:

Vented discs/discs

TIRES:

205/40R-17 Bridgestone Potenza RE050A

LxWxH:

160.1 x 67.8 x 57.2 in

WHEELBASE:

98.0 in

HEADROOM F/R:

391/372 in

LEGROOM F/R:

42.2/31.2 in

SHOULDER ROOM F/R:

52.7/49.0 in

CARGO ROOM F/R:

10.1/25.4 cu ft

WEIGHT:

2,742 lb

WEIGHT DIST. F/R:

60/40%

0-60 MPH: 6.4 sec

60-0 MPH:

104 ft

% MILE: 14.9 sec @ 94.6 mph

TOP SPEED:

137 mph

SKIDPAD:

0.90 g

VOLKSWAGEN GOLF GTI



8,877: "Perfectly placed pedals make rev-matching easy," says features editor Rory Jurnecka. Even in L.A. traffic, the light clutch and friendly six-speed don't make us yearn for VW's smooth dual-clutch automatic. **9,345:** How about a classic golfball shifter instead of this one with turbulator dimples, VW? **10,006:** Testing shows a 0-60 mph time of 5.8 seconds and the quarter mile in 14.4 seconds at 99.2 mph. It brakes from 60 to 0 mph in 108 feet and pulls 0.92 g on the skidpad. Affordable performance is alive and well. **11,773:** "There are cars with more character, that are more emotional, that I'd rather own and drive every day, but nothing feels as well-rounded as the GTI," says senior editor Chris Nelson. "I'd never fall in love with it, but I'd respect the hell out of it for competently doing just about everything."

FORD MUSTANG



9,184: Detroit bureau chief Todd Lassa: "The Mustang's mile-long hood spreads out in front of you like a '65 Thunderbird, not a '65 Mustang." **10,046:** We hit the highway in our four-cylinder EcoBoost and a borrowed eight-cylinder GT. The V-8 averages 23.7 mpg, the turbo-four 33.4 mpg. **12,488:** The optional Performance Pack's limited-slip differential and sticky Pirelli tires keep the car composed and planted as we cut corners at GingerMan Raceway in southwest Michigan. Oh, and they keep it on the tail of a 444-hp Boss 302, lap after lap. **14,690:** Daily news editor Jake Holmes takes the turbocharged ponycar to Tail of the Dragon on the North Carolina-Tennessee border. "So much fun I forgot to eat a few meals, but thankfully none of the Mustang's parts ended up on the Tree of Shame."

BMW M235i

MILES TO DATE:

29,847

24,286: The M235i gets a lot of attention during a day at the track with the BMW Car Club of America's Motor City chapter. A few call it the modern iteration of the beloved E46 M3, and one M3 owner says the M235i is the BMW any enthusiast should buy: "Trackable, streetable, and not too aggressive. A future classic, for sure." **24,452:** We hit a pothole, cracking and bending the front-left wheel. Not great, but not the end of the world. Then we find out the front strut, steering knuckle, and wheel bearing are wrecked too, and we're out \$2,439. Ouch. **27,160:** Driving most modern BMWs and then driving the M235i is like listening to music with cotton in your ears and then pulling it out. The notes have always been there, but now you can actually hear and appreciate them. 28,308: There's a USB outlet, but the M235i won't play our music unless we shell out for BMW's proprietary iPhone cable. In a \$47,290 car? That's what a Bavarian middle finger looks like.



r f r

et us pour one out for Pontiac. Think not of the fecklessly managed, watered-down brand that

withered away in 2009. Remember instead a time when Pontiac became the nation's third best-selling automotive brand, a leader in innovation, style, and performance. Remember instead the Pontiac Fiero, the company's most ambitious and subversive car, which illustrates both what Pontiac stood for and where it all went wrong.

Pontiac had long pined for a two-seat sports car, only to be rejected by GM management on the grounds that such a car would compete too closely with the Corvette. But as fuel efficiency became a compelling issue in the

late 1970s, engineer Hulki Aldikacti successfully pitched management a plastic-body, mid-engine two-seater. The key was that it wasn't a sports car, but a cute little fuel sipper for cost-conscious commuters. "It was kind of a backdoor car." explains Gregg Peterson, an engineer for Pontiac at the time. To avoid raising any suspicions at the corporate level, official drawings of the car showed only a four-cylinder engine aft of the rear seats. "But in every drawing we made sure a V-6 would fit," says Peterson.

An astounding 136,940 examples of the Pontiac Fiero were sold in 1984, its first year. But all was not well. Many buyers expected a sports car but found themselves with a 1970s-style econowedge. Cursed with a tiny engineering budget, Aldikacti had



Yes, the Fiero's interior does recall the '80s—in a good way— with spacious seating, heavily stylized architecture, and, oh, those plastics!

relied heavily on the GM parts bin to get the car built, and the Fiero's plastic body panels and innovative spaceframe construction hid the front suspension and brakes of a rear-wheel-drive Chevette and a rear suspension derived from the strut-type front suspension of a front-wheel-drive Chevrolet Citation. Worse, the Fiero's ancient 2.5-liter "Iron Duke" four-cylinder





made just 92 hp, and with 2,600 pounds to move around, its performance was turgid at best.

Nevertheless, the Pontiac guys went to work and polished their hairdresser's car into something special. In 1985 the Fiero got a V-6 engine. For 1987 Pontiac introduced a sleek styling refresh. Finally for 1988 Pontiac bolted up a new multilink rear suspension derived from lessons learned from GM's part ownership of Lotus Engineering as well as the Fiero's successful foray into IMSA sports car racing.



The 1980s were not a good decade for GM V-6s, but this torquey but wheezy example looks good anyway.



Bill Shannon's perfectly preserved 1988 Pontiac Fiero GT shows the payoff of these continuous improvements. Measuring 165.1 inches in length on a wheelbase of 93.4 inches, the Fiero has a relatively spacious cabin for a mid-engine car. The 1980s GM interior pieces, redolent of aging plastic, now evoke nostalgia. More important, the seats hold us snug, and the steering wheel, one of the last of the pre-airbag era, sends out honest sports car vibes.

Shannon's a genial guy, but he drives the Fiero like he stole it, so when it's my turn behind the wheel, I don't hold back. Guess what? This old Pontiac has got game. It adjusts quickly to stabs of the throttle but never gets nervous thanks to its revised rear suspension. The Fiero's unassisted steering provides a reassuring stream of information through the thin leather-wrapped rim. The five-speed Getragengineered gearbox, another late





WHY BUY?

Think of the Pontiac Fiero as the Chevy Corvair of the 1980s. Heck, you can think of the Fiero as a Porsche 914 if you like. Conceived as an economy car, the Fiero quickly evolved into a kind of sports car. And these days, the Fiero is remembered for its ambitions, not its disappointments. Surprisingly enough, you can find Fiero clubs across the country, among which the Michigan chapter naturally appears to be the liveliest. Just as important, Pontiac clubs have been successful at keeping the brand alive with plenty of events, while the magic of the Internet makes it possible to find parts for a 25-year-old car. Entry-level prices for the Fiero hover below \$5,000, but the value of nice examples is pretty stable at about \$8.000. Few other cars offer so much magic at such an affordable price point.





THE SPECS

THIS 1988 FIERO GT

ENGINE:

2.8L OHV V-6/ 135 hp @ 5,200 rpm, 165 lb-ft @ 3,600 rpm

TRANSMISSION:

5-speed manual **DRIVE:** Rear-wheel

FRONT SUSPENSION: Control arms, coil springs

REAR SUSPENSION:

Multilink, coil springs BRAKES: Disc WEIGHT: 2,791 lb improvement, feels crisp.

Not everything is peachy. The wheezy 2.8-liter, 135-hp V-6 riding behind us loudly bemoans the fact that it didn't wind up in a Chevrolet Celebrity like most of its brethren. The plastic exterior panels join the cacophony, rattling loudly as I bash through rutted curves. But with the 1988 Fiero GT, Pontiac at last had a proper sports car.

And yet it was too late. By the late '80s the sports car market was saturated with competitors duking it out for 20,000 sales apiece, not enough volume to justify a car that required 50,000 sales to break even. It didn't help that engine fires badly hurt the car's reputation, especially since GM dragged its heels issuing a recall. And finally, a sweeping corporate reorganization folded Pontiac into a single group with Chevrolet and GM of Canada, which meant a loss of its independence and identity.

Within the joint organization with Chevrolet, there was no room for two low-volume sports cars. Plans were quickly dropped for the next-generation 1990 Fiero with its Oldsmobile Quad 4 engine, a high-tech DOHC four-cylinder. Production halted after the 1988 model, of which only 26,402 were produced. Racer Jim Hall, former Pontiac general manager Bunkie Knudsen, and former Chevy R&D director Jim Musser considered producing the car independently as the "Chaparral," but nothing came of it.

Meanwhile, Bill Shannon is happy to accept his 1988 Pontiac Fiero GT for what it is. Like many Fiero buyers, Shannon was drawn in by the exotic styling. A veteran designer who worked for Chrysler in the late 1980s, he'd been able to tour the Lamborghini factory during Chrysler's ownership of the Italian brand. After a ride in a Countach from famed test driver Valentino Balboni, he returned to the States with a hankering for a mid-engine Italian sports car. The '88 Fiero GT, with its Ferrari-esque fastback body style, was about as close to it as a man of reasonable means could get.

Feature

1965 Ferrari 500 Superfast Sold at \$3,025,000

S/N 6049 SA

DARK BLUE OVER RED

leather interior. 400-hp, SOHC 5.0-liter V-12; four-speed manual transmission with overdrive. As shown at Gooding & Co.; left-hand drive. The paint and brightwork are in excellent show condition. The interior and wood trim are also in excellent condition, with no wear or problems noted. Offered with custom-crafted luggage meant to fit the rear parcel shelf behind the front passenger seats and a full, vintage Ferrari tool kit.



THE STORY BEHIND THE SALE:

One of the last Ferraris of the company's coachbuilt era, when short production runs of exclusive cars were offered to carefully selected clients. This car with its iconic Pininfarina-designed body was revealed at the 1964 Geneva auto show then built in two

> 1956 Maserati A6G/2000 Coupe

Sold at \$1,045,000

series between 1964 and 1966. This is one of just 28 left-hand-drive examples, as certified by Ferrari Classiche. Previously owned by Prince Sadruddin Aga Khan IV, who acquired the car new in June 1965. Though not a playboy like his father, the Harvard-educated prince did love speed

(he was a downhill ski racer) and appreciated engineering, and he became well known as a car guy during his youth. This car was restored by Motion Products, a marque specialist in Wisconsin, and was shown at Pebble Beach in 2014. Sold at the low end of its estimate of

\$3,000,000 to \$3,400,000, this is the expected price of entry for a Ferrari 500 Superfast in this condition. As long as the prices of collectible Ferraris rise faster than the stock market, there will be a market for elegant rolling sculpture such as this wonderful car.



S/N 2147

BLACK AND RED OVER

black leather interior with red piping. 150-hp, DOHC 2.0-liter inline-six; four-speed manual transmission. As seen at Gooding & Co. The two-tone paint is in excellent condition, and the brightwork gleams. The interior is spotless from the red carpets to the dash. The engine compartment is detailed to concours condition.

Early Maseratis are not easy to

find, which should not be surprising as not many were built to begin with.

> This car's history is completely documented. It is a bespoke (rich-quy speak for custom) example of the A6G/2000 that was purpose-built for rallying in the days when navigation was as important as speed. This Allemano-built bodywork has lots of cool extra lights, and even the heavy-duty bumpers were fitted from new. Though the restoration has a few years of age on it, this Maserati still looks great.



S/N CSX2208

RED OVER BLACK LEATHER

interior, 271-hp, OHV 4.7-liter (289-cu-in) V-8; four-speed manual transmission. As seen at Gooding & Co. Very good exterior paint and brightwork; the interior shows a very nice patina. Sold with a factory hardtop and wire wheels, plus a set of lightweight, racing-type Halibrand magnesium wheels. This is one of 453 examples of the Cobra 289 street car; it is a later car with rack-and-pinion

1964 Shelby 289 Cobra Sold at \$902,000

steering rather than the early worm-and-roller setup. Originally painted

Vineyard Green.

In the world of collector cars, long-term ownership of a car is generally viewed as a good thing. This is a three-owner car, most recently owned by the same person since 1968. He purchased the car while in high school and apparently used it as a daily driver in college. It sold at the low end of its \$900,000-\$1,200,000 estimate, yet it is still market correct for the Shelby that almost everyone wants.

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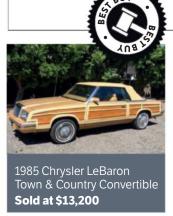




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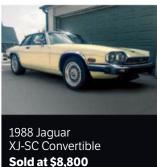
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S/N 1C3BC55G3FG274218 **BEIGE WITH BEIGE VINYL**

top over beige vinyl interior. 101-hp, SOHC 2.6-liter inline-four; three-speed automatic transmission. As shown at Mecum. The paint and wood-grain vinyl trim are in excellent condition. Equipped with a power top, wire-wheel hubcaps, and air-conditioning. Less than 12,200 original miles on the odometer.

Lee lacocca saved Chrysler, and he made the cover of *Time* magazine in 1983 as a result. His purposely generic K-car became a LeBaron convertible in 1982 thanks to engineering by Cars & Concepts then went into production in 1983 as the Chrysler Town & Country, recalling a great model of the 1940s. The ultimate upgrade was this Mark Cross edition, of which 595 were made in 1985. If you've got the sense of irony to go with it, this mostly unused example will make the crowd go wild at a concours.

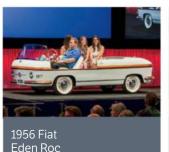


S/N SAJNA384XJC139775

WHITE WITH BLUE CLOTH

top over blue leather interior. 266-hp, SOHC 5.3-liter V-12; three-speed automatic transmission. As shown at Mecum. The paint and brightwork are in very good condition. Interior use is evident. Equipped with three-piece BBS wheels, tinted power windows, factory AM/FM radio, factory tool kit.

This is a very 1980s Jaguar, complete with stereo, tinted windows, and snappy, racing-type BBS wheels. The SC was a targa-type convertible and found only a limited market. Despite that, this is still a heck of a lot of V-12 convertible for the money. For the long term, you might want to get the full convertible that followed this model; there is a really good chance it will ultimately be the one to have. Nevertheless, the SC is a unique car at the bottom of the market with nowhere to go but up.



Sold at \$660,000 S/N 100.108.008009

WHITE OVER WHITE VINYL

interior. 50-hp, OHV 1.0-liter inline-four; four-speed manual transmission. As shown at Gooding & Co. Completely restored. Excellent paint, excellent teakwood trim, and great brightwork in this custombodied Fiat with the name of a famous resort in Miami.

You have to ask yourself: What were they thinking? Built on a stretched and widened Fiat Multipla chassis by Pininfarina, this is stylish transportation to the beach, no more. For this kind of money, you could find an awful lot of rusty old Fiats and make a handful of copies of this car. So why so much? One of perhaps only three built, this particular one was made for William Doheny when he was chairman of Union Oil. Henry Ford II had one of the others. As a result, this glorified dune buggy becomes a part of Pininfarina's history.



CLK DTM AMG Coupe Sold at \$451,000

S/N WDB2093421F144126

SILVER OVER BLACK

leather and suede interior. 574-hp, supercharged 5.4-liter V-8; five-speed automatic transmission. As shown at Gooding & Co. Just above 2,100 miles. Excellent paint, excellent trim, minimal brightwork. The interior is in excellent condition

Imported into the U.S. in 2005 under federal regulations permitting only show and display, this is the street version of the AMG-built racer from the German touring-car championship. It's one of 100 cars built. Let's be frank here: This is not a spiffed-up production car but a racer-ized car that you can use on the street. That is, a street in a country other than the U.S., where this is a only a very fancy track-day special. Other owners of the CLK DTM reportedly include F1 drivers Jenson Button and Kimi Räikkönen, who also have other track-day cars for weekend use.



S/N ZA9DU07P9MLA12363

RED OVER TAN LEATHER

interior with red piping. 485-hp, DOHC 5.7-liter V-12; five-speed manual transmission. As shown at Mecum. Under 7,500 miles on the odometer. The paint is in excellent condition. Equipped with the original Alpine stereo system. Recent service history.

Chrysler rescued Lamborghini from itself in 1987, and while Marcello Gandini complained 1991 Lamborghini Diablo

Sold at \$126,500

about what Chrysler design chief Tom Gale did to his original design for this

evolution of the Countach, everyone else loved it. With only 2,884 Diablos built between 1990 and 2001, prices of early cars are on an upward trend. There are plenty of low-mile examples out there, and the careful shopper can even find a variety of colors.

This 485-hp V-12 makes you feel as if you're in a rocket ship as you go down the highway. Of course, limited outward visibility is like a space capsule, too.



S/N A2A465A133819

CANARY YELLOW WITH

black stripes over tan-and-white vinyl interior. 150-hp, OHV 4.2-liter (258-cu-in) inline-six; three-speed automatic transmission. As shown at Mecum. Said to have 25,000 original miles. The paint is in very good condition. Equipped with factory A/C. A time capsule.

What were they thinking? Build quality, reliability, and durability were not the signature of many

1972 AMC Gremlin **Sold at \$18,425**

American cars from the 1970s. Nevertheless, if you want a car that stops traffic

everywhere from the local show-and-shine to the biggest of judged shows, take something that was affordable in its day and frankly as docile as they come. Everyone of a certain age has a story about a Gremlin, Pinto, or a Vega, either one that the person owned or one that a friend did. Attitude is everything, and this wacky Wisconsin-built car has it. This might seem like a silly purchase, but it'll be more fun than a Ferrari, not to mention cheaper.







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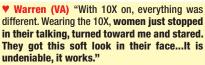
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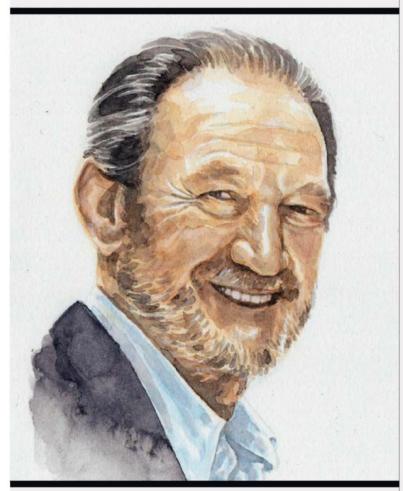






WHERE ARE THEY NOW?

VALENTINO BALBONI



As Lamborghini's chief test driver

for some 40 years, Valentino Balboni had a hand in the development of virtually every car to emerge from Sant'Agata since the last Miuras rolled off the line. His invaluable feedback helped ensure that Lambo's production cars were set up properly, and his occasional demonstration rides to new owners have become the stuff of legend. Balboni's impact was such and his enthusiasm for the brand so great that a limited-edition, rear-wheel-drive Gallardo was named after him in celebration of his storied career, which officially ended in 2008.

AM: You held every man's dream job for four decades. Was it difficult to leave?

Yes. I knew one day I'd have to retire due to Italian law. Well, the one day I was retired, and the second day I was employed again as a consultant [to Lamborghini]! I'm waiting now for a contract renewal

AM: How was it that you got your start at Lamborghini?

The local priest of my village said, "Come with me. I want to go see my parents in Sant'Agata." When we got there, we passed by the company [Lamborghini], and I saw a truck unloading Miura bodies. I said to the priest, "Please stop here. I want to see those cars." A man came out, and we started talking, and I ended up helping him push the bodies inside. On my way out, the security man, who was a good friend of Ferruccio Lamborghini, started asking me, "Who are you? Why are you here? You shouldn't be here." He was making me feel very bad, but I explained what happened, and he said if I wanted I could fill out a form and then I'd be employed by Lamborghini. So this is what happened! I was an apprentice mechanic at first, cleaning the floors, cleaning the tools.

AM: What was the first Lamborghini you drove?

It was one of the very last Miuras that we built on Sept. 5, 1973. After a year of training with (then chief tester) Bob Wallace, I became assistant test driver.

AM: You began your career in an era of supercars that were very raw. Are today's softwaredriven, hybrid-powered supercars going soft?

Well, I always say—and I still feel—that I was extremely lucky in my life to live and experience the best moment of the sports car. I have a lot of respect for modern cars. Modern technology is amazing, but I'm lucky to

have worked with the cars that I did. Still, it's important to have constant development. Alternative power, you know, it's good to have people studying for the future.

AM: How much driving are you doing in your semi-retirement?

Still every day I am driving and testing cars, because me and a group of retired Lamborghini people that worked together for 40 years founded a shop, and we are restoring Lamborghinis. We are the only ones that have the experience from that time—the electricians, the people working on the interiors, all doing the same things we did. The shop is very close to Bologna where I live. We restore all types of vintage Lamborghini; Miura, Espada, 400GT, 350GT, the real Lamborghinis of those

AM: What else do you do to fill your time?

Well, I like to garden. I like to bike. But you know 90 percent of my time is devoted to cars. Devoted to Lamborghini, actually! Not just to cars. Still, still! Lamborghini is my life.

AM: Is there a Balboni Edition Gallardo in your stable?

One of the ones at the company I can use when I want. I'm very proud of that

AM: You've driven plenty of cars in your career. Are there any you'd still like to drive that you've never had the chance to?

No. (Laughs.) I think this car is still to come.

AM: There must have been some days on the job that were more memorable than others. Do any stand out?

Despite 45 years or more, every day is a new day. Every day is an emotion, especially now that I can concentrate on vintage Lamborghinis, which are in my opinion the best cars ever. Bringing back those cars to life is a huge reward.



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